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PROVINCE OF NOVA SCOTIA.

# Department of Public Works and Mines

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## ANNUAL REPORT OF THE MINES 1915.



PRINTED BY ORDER OF THE LEGISLATURE

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HALIFAX, N. S.

COMMISSIONER PUBLIC WORKS AND MINES

KING'S PRINTER

1916





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# Department of Public Works and Mines.

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REPORT OF THE MINES, 1915.

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*To His Honour, The Hon. David Mackeen,  
Lieutenant-Governor of Nova Scotia.*

MAY IT PLEASE YOUR HONOUR:—

I respectfully present herewith to Your Honour, the Annual Report of the Inspector of Mines for the year ended September 30th, 1915.


I have the honour to be,

Your Honour's obedient servant,

ERNEST H. ARMSTRONG,

*Commissioner of Public Works and Mines.*

HALIFAX, December 20th, 1915.



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# REPORT OF THE MINES OF NOVA SCOTIA

BY HIRAM DONKIN, C. E.,

INSPECTOR OF MINES.

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Halifax, N. S., December 31st, 1915.

*To the Honourable Ernest H. Armstrong, K. C., M. P. P.,  
Commissioner of Public Works and Mines.*

SIR:—

I have the honour to submit herewith report of the Mines and Quarries of Nova Scotia, and summary of reports from Deputy Inspectors and others, for the fiscal year ended September 30th, 1915.

Tables of statistical information in regard to the mining industry are included.

The shortage of men and difficulty in obtaining sufficient means of water transportation caused by the war has had the effect of decreasing seriously the output of coal for the year. The collieries in respect to equipment, working conditions, and development for a much greater output are in as satisfactory a state as at close of last year.

The colliery of the Cape Breton Coal, Iron and Railway Co., Ltd., at Broughton was closed in January, 1915, and No. 3 colliery of the Dominion Coal Co., Ltd., was worked out and closed about end of August, 1915.

It is with extreme regret that I refer to the death of Deputy Inspector Thomas Blackwood, who from a high conception of his

duties entered the Allan Mine shortly after the explosion on the morning of December 20th, 1914, with Mr. James Brown, Superintendent, Mr. Alexander Sutherland, Manager, and Mr. Neil McLean, Underground Manager. They encountered gas in which the Deputy Inspector and the Superintendent lost their lives.

Mr. Blackwood was appointed to the position of Deputy Inspector in May, 1907, and gave to the service unsparingly of his wide experience, as a mining man, his good judgment and his best energies. His work was appreciated by the Department he served, and his loss as a good citizen as well as by all those who could appreciate his large knowledge of mining matters, will be long and keenly felt.

Mr. R. H. Gray was appointed Deputy Inspector in January, 1915, and began the discharge of his duties immediately.

Included in this report will be found the Regulations for the Installation and Use of Electricity in the Coal Mines of Nova Scotia, approved by Order-in-Council 21st day of August, 1915. Questions in relation to the use of electricity in the coal mines of the Province will be added to the next examination papers to be prepared for managers, underground managers and overmen.

I have the honor to be, sir,

Your obedient servant,

HIRAM DONKIN,  
*Inspector of Mines.*



## NOVA SCOTIA'S MINERAL PRODUCTION.

*Year ended September 30th, 1915*

MINERALS	1914	1915
Coal, long ton.....	7,005,464 $\frac{1}{4}$	6,379,463 $\frac{1}{2}$
Pig iron, short ton.....	281,428	295,868
Steel ingots, " " .....	341,818	369,310
Limestone, " " .....	335,515	353,412
Coke, " " .....	467,730	452,099
Gypsum, " " .....	283,340	230,216
Building stones, " " .....	15,468	39,654
Bricks, number .....	14,543,608	1,922,100
Drain pipe, tile, feet.....	1,592,875	1,022,470
Grindstone, short ton.....	202	235
Gold-bearing ore, " " .....	13,156	25,204
Gold, ounces .....	3,158	7,216
Moulding sand, short ton.....	430	800
Ammonia sulphate, long ton.....	4,139	4,303
Briquettes, " " .....	24,170	13,890
Barytes, " " .....	1,400	750
Antimony ore, " " .....	.....	10,872

Iron ore imported, 665,541 long tons.

## MINES OFFICE.

*Statement of Revenue for Fiscal Year ended September 30th, 1915.*

SOURCE	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Totals
Prospecting License applications.....	\$ 543.00	\$ 290.00	\$ 637.00	\$ 1,174.00	\$ 2,644.00
Lease Applications (Gold and Silver).....	106.00	46.00	297.00	374.00	823.00
Rentals (Gold and Silver).....	.....	.....	867.50	9,068.50	9,936.00
License to Search applications.....	1,230.00	1,830.00	600.00	1,410.00	5,070.00
Lease applications (Other than Gold).....	150.00	200.00	50.00	100.00	500.00
Rentals (Other than Gold).....	30.00	.....	14,520.00	16,440.00	30,990.00
Gold Royalty .....	620.05	247.52	783.29	100.46	1,751.32
Coal Royalty .....	215,497.19	125,318.55	95,145.31	238,029.72	673,990.77
Fees .....	300.60	505.54	463.20	249.50	1,518.84
	\$218,476.84	\$128,437.61	\$113,363.30	\$266,946.18	\$727,223.93

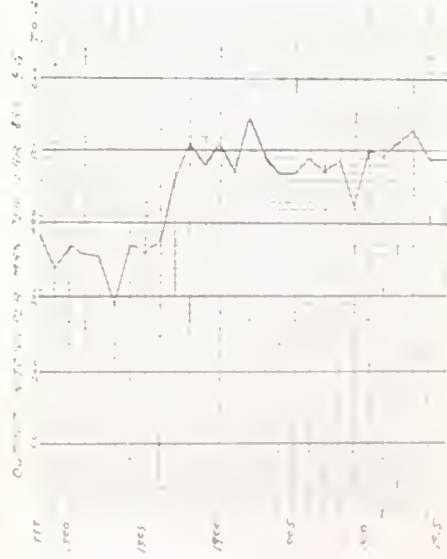
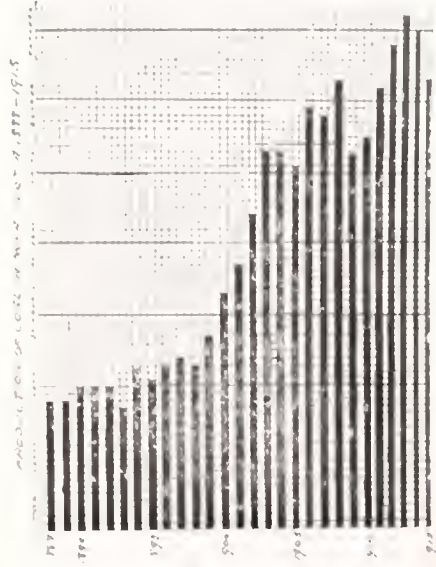
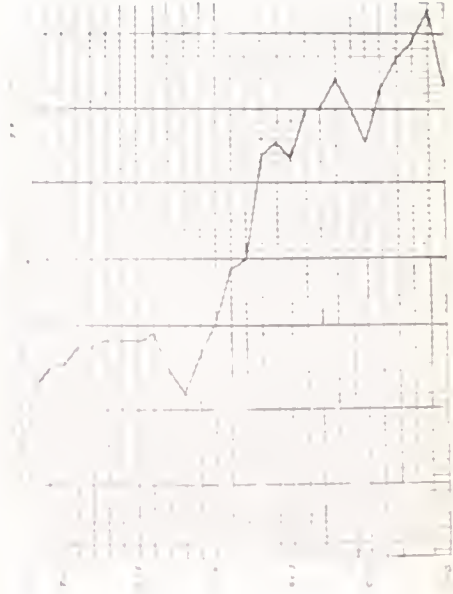
## COAL TRADE.

Returns of coal sold during the year 1915 show, compared with the returns of 1914, as follows:—

Destination	1914 Tons	1915 Tons	Increase %	Decrease %
Nova Scotia .....	2,203,336 <sup>3</sup> / <sub>4</sub>	2,115,431 <sup>1</sup> / <sub>4</sub>	.....	3.9
New Brunswick .....	680,491 <sup>1</sup> / <sub>4</sub>	603,297 <sup>1</sup> / <sub>2</sub>	.....	11.3
Newfoundland .....	225,589	208,692	.....	7.4
Prince Edward Island .....	95,781	83,188 <sup>1</sup> / <sub>2</sub>	.....	13.1
Quebec .....	2,381,582 <sup>1</sup> / <sub>2</sub>	1,828,769 <sup>1</sup> / <sub>2</sub>	.....	23.0
United States .....	300,661 <sup>1</sup> / <sub>4</sub>	532,684 <sup>1</sup> / <sub>4</sub>	77.1	.....
St. Pierre .....	8,636 <sup>1</sup> / <sub>2</sub>	10,472 <sup>1</sup> / <sub>2</sub>	21.8	.....
Other Countries .....	1,171	7,811 <sup>1</sup> / <sub>2</sub>	.....	.....
Bunker .....	248,790 <sup>1</sup> / <sub>2</sub>	342,208 <sup>1</sup> / <sub>4</sub>	37.5	.....
Time Chartered Boats .....	18,559 <sup>3</sup> / <sub>4</sub>	16,935 <sup>1</sup> / <sub>4</sub>	.....	8.7
Lost at Sea.....	.....	8,416 <sup>1</sup> / <sub>2</sub>	.....	.....
	6,164,600 <sup>1</sup> / <sub>4</sub>	5,757,907	.....	6.59

## PRODUCTION OF COAL BY COUNTIES.

COUNTY	1914 TONS	1915 TONS	INCREASE %	DECREASE %
Cape Breton .....	5,446,011	4,978,618 $\frac{1}{4}$	.....	8.5
Pictou .....	677,419	514,297	.....	24.0
Cumberland .....	606,915	653,289	7.6	.....
Inverness .....	275,119 $\frac{1}{4}$	233,259 $\frac{1}{4}$	.....	15.2
	7,005,464 $\frac{1}{4}$	6,379,463 $\frac{1}{2}$	.....	8.9





## DEPUTY INSPECTORS' REPORTS.

---

The following by JOHN J. McNEIL, *Deputy Inspector*, is reported respecting the mines of South Cape Breton, within his district.

### DOMINION No. 2 COLLIERY.

Owned and operated by the Dominion Coal Co., Limited.

This mine is on the Phalen seam, in the town of Glace Bay.

The output for the fiscal year is 710,849 tons. There was 89,941 pounds of explosives used; 7.9 tons of coal being produced for each pound of explosive.

The average air circulation was 230,799 cubic feet a minute with a water gauge of 4.6 inches.

There are 13 re-lighters, and 79 fire kings in use; 38 on the surface and 41 in the mines: charges are renewed every year. The hoisting ropes are re-capped every three months.

There are 504 skilled and 345 unskilled men in the mine, and 145 skilled and 52 unskilled men on the surface.

The Ackroyd & Best safety lamp is in use.

Improvements are as follows:—

A new haulage engine placed in No. 2 south level, south deep.

A new landing made and 1,700 feet of 30-lb. rails laid.

The haulage-road at the top of south deep was driven 100 feet farther up, to make room for eight boxes being added to the trip. This necessitated the building of a new overcast on No. 4 south level.

The south-deep haulage-road was driven 1,500 feet: 30-lb. rails were used; 750 feet of 56-lb. rails were laid in No. 1 south level, south deep.

Four new landings were made in the lower workings, south deep.



No. 1 north-deep haulage was extended 1,000 feet with 30-lb. rails; and two new landings were made.

The air-way on No. 1 north level was repaired and six concrete stoppings were built. A new lodgment was driven in No. 1 north and south deeps; and 1,200 feet of air-way cleaned and partly timbered between south headway and south deep. A new water-level was driven from south deep to main lodgment, which will be used for a travelling-road for south deep section.

Two pumps, 18 by 7½ by 33 inches, were placed in No. 1 north deep.

One pump, 12 by 6 by 10 inches, was placed in south deep.

The six-inch air-line in south deep was extended 1,200 feet; and the six-inch air-line in No. 1 north-deep, 900 feet. Four-inch discharge line in south-deep was extended 2,200 feet; 800 feet of four-inch pipe was laid in No. 3 level, No. 2 north deep.

Alexander S. McNeil is manager.

#### DOMINION NO. 3 COLLIERY.

Owned and operated by the Dominion Coal Co., Limited.

This mine is in the Phalen seam, in the town of Glace Bay.

The output was 51,880 tons. To produce this coal 7,394 pounds of explosives were used: 7 tons of coal being produced for each pound of explosive.

This mine is now worked out and was closed on September 1st, 1915.

James Kennedy was manager.

#### DOMINION NO. 4 COLLIERY.

Owned and operated by the Dominion Coal Co., Ltd.

This mine is situated at Caledonia, in the town of Glace Bay.

The output for the year was 315,258 tons.

To produce this amount of coal there were used 41,370 pounds of explosives, or nearly 8 tons to each pound of powder used.

There were used 12,000 feet of 1½-inch: 4,154 feet of 4-inch: 1,930 feet of 6-inch, and 1,002 feet of 8-inch pipe.



There are 100,000 cubic feet of air in circulation with water gauge 2.7 inches. This quantity is split at the bottom of the fan-shaft; 70,000 cubic feet going east and 30,000 cubic feet going to the west side. The east-side air is split again at No. 9 east landing. Quantity passing in No. 9 split is 25,000 cubic feet a minute. This quantity is split again, which ventilates No. 10 east and No. 11 east section, outside of No. 2 gravity-haulage. The remainder of the air ventilates No. 10 and No. 11 west, and No. 12 and No. 11 east landings.

The east-deep haulage was extended 1,000 feet and was laid with 30-pound rails. This haulage-road was re-laid on full-road side, 1,500 feet, with 60-pound rails.

Air-course in east side is being cleaned. Material is stored in old rooms. This work is to be continued until the entire air-course is cleaned.

The underground pumps have been given general repairs and put in good condition for heavy inflows of water. The travelling-road through the crushed district has been secured, 60-pound rails are used for booms instead of wood. The main-haulage through the crushed district has been repaired; the roof has been dropped and loaded away, and the sides lagged.

The boilers and engines have received general repairs. Top of fan-house, the boiler house and wooden buildings adjoining fan, have been cemented over, and are now fire proof.

John Casey is manager.

#### DOMINION No. 5 COLLIERY.

Owned and operated by the Dominion Coal Co., Ltd. The output from this colliery for the year was 145,209 tons. The powder used was 11,388 pounds, making an average of 12.7 tons of coal for each pound of explosive.

Ventilation, 137,000 cubic feet a minute; w. g. 1.5.

The output from this mine is from pillars only. The mine is kept in good condition.

A small engine has been placed on No. 4 north, to haul the coal from the main slope section. There have been no additions made to the equipment.

Walter G. Ross is manager.

## DOMINION No. 6 COLLIERY.

Owned and operated by the Dominion Coal Co., Ltd. Total quantity of air entering this mine is 85,300 cubic feet a minute; 17,700 cubic feet on east side and 67,600 on west side, with a water guage of 1.9 inches.

Considerable improvement has been made to air courses during the year. The output was 242,422 tons, 6.64 tons being produced for each pound of explosive used.

Main-and-tail-rope haulage has been extended 800 feet on No. 6 west level; total length of haulage 4,700 feet.

Main-and-tail-rope haulage has been put in No. 7 west level, a distance of 2,800 feet.

A pump 12 by 6 by 12 inches has been put in good repair, and will be placed at a new lodgement below No. 8 level.

No new machinery was placed on the surface during the year with the exception of a portable boiler at the pumping station.

There were used in the mine, 8,189 feet of 18-pound, and 765 feet of 60-pound rails: 16,877 5-foot sleepers and 326, 6-foot sleepers; 9,690 feet of 1½-inch pipe; 8,503 feet of 2-inch pipe; 175 feet of 3-inch pipe, and 1,121 feet of 4-inch pipe.

William McDonald is manager.

## DOMINION No. 7 COLLIERY.

Owned and operated by the Dominion Coal Co., Ltd. The output from this mine for the year was 190,580 tons. To get this output there were used 27,899 pounds of explosives; 6.9 tons of coal being produced for each pound of explosives.

The following rails and pipe were used in the mine; 955 feet of 18-pound and 2,319 feet of 30-pound rails: 4,100 feet of 1½-inch: 995 feet of 2-inch: 5,600 feet of 4-inch, and 1,100 feet of 8-inch pipe.

The 8-inch air-line from No. 5 to No. 6 landing was extended 1,100 feet: 4-inch line, in No. 4 level was extended 400 feet: 4-inch line in No. 5 south level was extended 600 feet: 4-inch line in No. 6 south level was extended 800 feet: 4-inch line in No. 6 north level was extended 500 feet: 4-inch line in No. 7 south level was extended 300 feet: 4-inch pump-discharge-pipe, from No. 7 landing to No. 4 landing was extended 3,000 feet.

One pump 14 by 6½ by 18 inches, was placed at No. 7 landing. Average quantity of water discharged from the mine was 400,000 gallons daily. The ventilating current was increased 10,000 cubic feet; 41,000 cubic feet going north and 29,000 going south.

The average barometer reading was 29.7 inches; the thermometer 43 degrees. In the return airway the thermometer averaged 53 degrees, and the barometer 30.10 inches.

A pair of deeps were driven off No. 4 north levels 3,000 feet; main deep driven 400 feet.

Third set of headways on each side of No. 6 landing driven to No. 5 barrier (finished).

Second set of headways in No. 5 south started and driven 500 feet. No. 5 south levels driven 300 feet. Started third set of headways in No. 5 south.

Started and finished first set of headways No. 7 north; and first set of headways No. 7 south driven 500 feet.

Patrick T. Pendergast is manager.

#### DOMINION No. 9 COLLIERY.

Owned and operated by the Dominion Coal Co., Ltd. The output from this mine for the year was 380,081 tons, and there were used 46.025 pounds of powder, or 8.2 tons produced for each pound of powder.

Heavy repairs were made in the mine, such as timbering main haulage-ways, air-courses, and laying new track on north-angle deep, No. 2 level north off this deep, and No. 3 level north. A new tail-rope haulage has been installed on No. 4 level south, off south deep, and plane-rope haulage on No. 2 level north, off north-angle deep. A new landing was made and 1,000 feet of track have been laid on No. 5 level, south, off north-angle-deep, and an engine placed to haul the coal on this level. The engines for the new haulage have been used in other parts of the mine. The air-lines have been extended on main-south and north-angle-deeps, also on No. 2 and 3 levels north, north-angle-deep, and 3 and 4 levels south, south deep.

There are 10 re-lighters and 38 fire-kings in the mine: charges are renewed every year.

The hoisting, and man-cage ropes are recapped every three months.

There are 365 skilled and 246 unskilled men employed.

There were used 3,137 feet of 1½-inch pipe: 2,100 feet of 2-inch pipe, and 1,500 feet of 4-inch pipe.

There are 31,628,170 gallons of water pumped from the mine per month.

The average air circulation was 211,572 cubic feet per minute: water-gauge 3.2 inches.

D. H. McLean is manager.

#### DOMINION NO. 10 COLLIERY, EMERY SEAM.

Owned and operated by the Dominion Coal Co., Ltd.

The output for the last year was 154,278 tons; 16,194 pounds of explosives were used in coal getting: 9.5 tons being produced for each pound of explosive.

The main north level was double tracked and the endless-haulage system installed, replacing the main-an-tail-rope system. The narrow work is kept well in advance.

There are 45,560 cubic feet of air in circulation, produced by a fan, with a water-gauge of .5 of an inch.

John A. McDonald is manager.

#### DOMINION NO. 11 COLLIERY.

Owned and operated by the Dominion Coal Co., Ltd.. This mine is on the Emery seam. The output was 97,874 tons; 11,081 pounds of explosives were used; 8.8 tons of coal being produced for each pound of explosive.

The main haulage was extended 600 feet, and a 6 by 8 inch engine was placed on No. 3 west levels, also a similar engine on the first headway on No. 3 west. A 6 by 8 inch engine was placed on No. 3 east levels and new haulage extended 1,000 feet on No. 2 west levels. A new pump, 18 by 7½ by 20 inches, was placed near the foot of the deep, and a new lodgment is being driven.

The fan is driven by a new electric motor, which increased the quantity of air 8,000 cubic feet per minute, making a total of 25,000 cubic feet a minute.

There were 8,532 feet of 18-pound, and 4,000 feet of 30-pound rails used.

James R. McNeil is manager.



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DOMINION NO. 21 COLLIERY—McAULAY SEAM.

Owned and operated by the Dominion Coal Co., Ltd.

Dominion No. 21 mine is on the McAulay seam at Birch Grove, about two and one-half miles west of Port Morien. The seam is five and half feet thick.

The output for the year was 80,486 tons. The quantity of explosives used to get this was 13,070 pounds or 6.1 tons to the pound of powder

The colliery was idle from December 19th, 1914 to May 3rd, 1915. During this period the men of this colliery found employment at No. 22 colliery. The horses belonging to the colliery were sold or sent to other collieries belonging to the company.

Mechanical-haulage was installed in the headways and levels to replace horse-haulage. Five engines were placed for this purpose. There are 50,000 cubic feet of air a minute in circulation. There are 5,800 feet of 5-8-inch rope and 1,300 feet of ½-inch rope in use.

The main-haulage was extended 700 feet. There were 2,800 feet of 30-pound rails and 4,000 feet of 18-pound rails put in use. The travelling-road was put in good condition. The slope from the north outcrop was re-timbered. The pump-house was enlarged and is now ready for the second pump. The 4-inch air-pipe was extended 1,000 feet on No. 2 east and No. 2 west levels: 200 feet of 8-inch wooden discharge-pipe was laid.

Neil A. McDonald is manager.

## DOMINION NO. 22 COLLIERY—McAULAY SEAM.

Owned and operated by the Dominion Coal Co., Lt.

This mine produced last year 175,286 tons; 25,220 pounds of explosives were used and 6.9 tons of coal was produced for each pound of explosive.

The narrow work is kept well in advance and the mine is in good condition. There are 50,000 cubic feet of air a minute in circulation. A new pump-house was made and an electric pump placed capable of discharging 300 gallons a minute.

All the underground-haulage is done by small engines. The men push the coal in cars from the room faces to headway.

There were 21,705 feet of 18-pound rails used during the year.

Robert Simpson is manager.

The following by Neil A Nicholson, Deputy Inspector, is reported respecting the mines in North, and South Cape Breton, within his district.

### DOMINION COAL CO., LIMITED.

#### DOMINION NO. 1 COLLIERY—PHALEN SEAM.

This mine produced last year 470,868 tons of coal: 61,476 pounds of monobel powder were used; 7.6 tons of coal being produced from each pound of explosive used.

The mine is gaseous. There is no spraying done. The accumulations of dust are loaded out. The ventilation is good. Ackroyd & Best safety lamps are used.

The water-gauge is 2.3 inches; barometer, 29.8 inches, thermometer, 56 degrees.

The quantity of air in circulation is 167,430 cubic feet per minute.

Maximum quantity of water discharged in 1 hour, 48,000 gallons.

There are 625 men employed at this colliery: 305 skilled and 220 unskilled work in the mine: 70 skilled and 30 unskilled work on the surface.

There were used 6,826 feet of 18-pound and 1,575 feet of 30-pound rails.

The mine worked 251 days during the year. The travelling roads are in good condition.

John Munro is manager.

#### DOMINION NO. 12 COLLIERY—VICTORIA SEAM.

The production from this mine for the year was 369,451 tons. Quantity of explosives used, 66,247 pounds of monobel; 5.6 tons of coal being produced for each pound of explosive used. This mine is gaseous and damp. The slopes are down 4,620 feet and the cover at the face is 750 feet.

There are 565 men and 15 boys employed at this colliery. There are 299 skilled men, 199 unskilled and 14 boys in the mine.

There are 34 skilled men, 23 unskilled men, and 1 boy on the surface.

This mine is divided into two sections, east and west. There are 152 working places.

The Ackroyd & Best safety lamps are used.

There were 3,747 feet of 18-pound rails and 5,724 feet of 30-pound rails used during the year.

Water-gauge, 1.6 inches; barometer, 29.6 inches; thermometer, 60 degrees. Air in circulation, 125,000 cubic feet per minute. Maximum quantity of water discharged in 1 hour, 30,000 gallons.

Angus R. McDonald is manager. The mine worked 249 days.

The travelling-road is in good condition, and is about 4,600 feet long.

#### DOMINION NO. 14 COLLIERY—VICTORIA SEAM.

This mine produced 394,274 tons of coal last year. Quantity of explosives used, 66,247 pounds of monobel; 5.9 tons being produced for each pound of explosives.

This mine is damp and gaseous. The slopes are down 5,600 feet, and the cover at the face is 885 feet.

This mine is divided into east and west sections, and has 184 working places. Two air-courses have been driven on west side between Nos. 7 and 8, a distance of 600 feet. Nine new balances have been put into operation and 150 rooms broken off. Two new landings have been laid on No. 8 east and No. 8 west. The main haulage-road has been laid from No. 7 to No. 9, 1,100 feet. The condition of travelling road is good, it is down 5,600 feet.

There are 452 men and 55 boys employed at this colliery. There are 252 skilled men in the mine, and 144 unskilled and 54 boys. On the surface there are 27 skilled, 29 unskilled, and 1 boy employed.

The water-gauge is 1.6 inches; barometer, 29.48 inches; thermometer, 60 degrees. Air in circulation, 136,000 cubic feet per minute. Maximum quantity water discharged in 1 hour, 33,000 gallons.

There were 2,442 feet of 60-pound rails used.

The ventilation is good. Ackroyd & Best safety lamps used.

Bart Connors is manager.

## DOMINION No. 15 COLLIERY—LINGAN SEAM.

The output was 253,476 tons, and 38,239 pounds of explosive were used; 6.6 tons of coal being produced for each pound of explosive.

There are 450 men and 6 boys employed at this colliery, 262 skilled, 140 unskilled men, and 2 boys are employed in the mine; 30 skilled, 18 unskilled and 4 boys employed on the surface. The coal is gaseous, but the mine is damp, and no spraying is required. The roof is shale and clay with alternate bands of sandstone; the floor is very hard clay.

There were 1,000 feet of the main deep brushed and timbered; also 600 feet of the travelling-road brushed and timbered. The travelling-road is in good condition.

The water-guage is 1.4 inches; barometer, 29.5 inches; thermometer, 60 degrees. Quantity of air in circulation is 100,000 cubic feet per minute. Maximum quantity of water that can be discharged in an hour is 18,000 gallons.

Used during year, 17,364 feet of 18-pound rails and 132 feet of 60-pound rails.

The Ackroyd & Best safety lamps are used.

The mine worked 234 days during the year.

Malcolm S. Benton is manager.

## DOMINION No. 16 COLLIERY—LINGAN SEAM.

The output from this colliery was 195,034 tons from rooms, 32,138 tons from narrow places, 13,233 tons from pillars, 48,872 tons from longwall, making a total of 289,277 tons. 49,169 pounds of explosives were used; 5.9 tons of coal being produced for each pound of explosives.

The mine is gaseous and damp; no spraying is required. Ackroyd & Best safety lamps are used. The roof is shale and clay, very hard, with alternate bands of sandstone.

New pinning on travelling-road from surface to No. 1 was put in and new travelling-road made from No. 2 to No. 3.



There are 450 men and 4 boys employed at this colliery.; 222 skilled and 178 unskilled men and 4 boys work in the mine; 16 skilled and 34 unskilled men are employed on the surface. and 34 unskilled men are employed on the surface.

Water-gauge, 1.5 inches; barometer, 29.5 inches; thermometer, 60 degrees. Air in circulation, 100,000 cubic feet per minute.

There were used during the year, 17,968 feet of 18-pound and 353 feet of 60-pound rails.

Michael MacIntosh is manager.

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## NOVA SCOTIA STEEL AND COAL CO.

### PRINCESS COLLIERY—MAIN SEAM

This is a hand-pick mine. It produced during the year 150,317 tons, and 14,666 pounds of explosive were used; 10.2 tons of coal being produced for each pound of explosive.

There are 529 men employed at this colliery, 423 are employed in the mine and 106 on the surface.

The mine worked 251 days during the year.

Some sections are dry and are sprayed.

The water gauge is 1 inch, barometer 30.6 inches and thermometer 62.8 degrees. The quantity of air in circulation at the face is 65,000 cubic feet a minute.

Maximum quantity of water that can be discharged in an hour, 30,000 gallons.

There were used during the year, 2,340 feet of 18-pound and 800 feet of 28-pound rails.

Ackroyd & Best safety lamps are used.

George Greenwell is manager.

## LLOYD'S COLLIERY—LLOYD'S COVE SEAM.

This mine worked 107 days during the year. The output was 33,884 tons, and the explosives used were 6,052 pounds; 5.6 tons of coal being produced from each pound of explosives.

There are 292 men and 25 boys employed at this colliery: 259 men and 21 boys work in the mine, 33 men and 4 boys are employed on the surface.

The Marsaut safety lamp is used; water gauge, 1.9 inches; barometer, 30 inches; thermometer, 50 degrees; air in circulation is 25,000 cubic feet a minute, and maximum quantity of water that can be discharged in an hour is 45,000 gallons.

There were used, during year, 5,320 feet of 11-lb. rails.

The roof and sides of the travelling road are in good condition; pavement is soft.

The return airways have been repaired and timbered.

Two new pumps have been placed—one 8 by 15 and one 7 by 15 inches.

D. G. McDonald is manager.

## FLORENCE COLLIERY—MAIN SEAM.

The output for the year was 176,913 tons, and 21,311 pounds of explosives were used, 8.3 tons of coal being produced from each pound of explosives used.

There are 564 men and 52 boys employed at this colliery: 249 skilled, 211 unskilled men and 45 boys are employed in the mine; 40 skilled, 64 unskilled men, and 7 boys are employed on the surface.

Water gauge, 2.5 inches; barometer, 29.78 inches; thermometer, 55 degrees; quantity of air, 51,600 cubic feet per minute; maximum quantity of water that can be discharged in an hour, 24,000 gallons.

The Marsaut safety lamps are used; the travelling roads are in good condition; the mine worked 246 days during the year.

Angus Ferguson is manager.

## SCOTIA COLLIERY—MAIN SEAM.

The output for the year was 128,397 tons of coal. Quantity of explosive used 19,214 pounds; 6.7 tons of coal being produced for each pound of explosive. The coal is mined by electric machines and by hand-picks. The mine is free from gas, and Marsaut safety lamps are used.

Water gauge, 2.5 inches; barometer, 30.08 inches; thermometer, 61 degree; quantity of air in circulation at or near the working face, 66,235 cubic feet per minute; maximum quantity of water that can be discharged in an hour, 24,000 gallons.

There were used during the year, 120 feet of 28-lb. and 200 feet of 30-lbs.

The mine is divided into two sections, north and south.

There are 376 men employed at this colliery, and 34 boys; 199 skilled and 109 unskilled work in the mine, 68 are employed on the surface, 44 skilled and 44 unskilled.

The mine worked 224 days during the year.

William Tobin, manager.

## QUEEN COLLIERY—MAIN SEAM.

This mine produced during the year 93,240 tons, all from pillars. Quantity of explosive used was 13,432 pounds, 6.9 tons of coal being produced from each pound of explosive used.

There are 279 men employed at this mine: 235 are employed in the mine, and 44 on the surface.

Water gauge, 4.5 inches; barometer, 29.53 inches; thermometer, 55 degrees; quantity of air in circulation at or near the working face, 100,000 cubic feet per minute; maximum quantity of water that can be discharged in an hour, 15,000 gallons.

The mine worked 210 days during the year.

Marsaut safety lamps are used.

The travelling roads are in good condition.

Robert Robertson, manager.

## SYDNEY COAL CO., LIMITED.

## INDIAN COVE COLLIERY—No. 3 SEAM.

This mine produced 6,000 tons, and used 1,200 pounds of explosives; 5 tons of coal being produced for each pound of explosives. It is a hand-pick mine, with natural drainage and natural ventilation: about 6,000 cubic feet a minute being in circulation.

The seam is soft and free from gas; the roof is hard with a fire-clay bottom. The travelling-way is along the main level which is in good condition.

There were 5,598 feet of 20-lb. and 11,196 feet of 12-lb rails used.

There were used during the year 600 feet of 5-foot props, and 480 4-foot sleepers of 4-inch face.

There are 14 men employed at this colliery, 8 skilled and 4 unskilled work in the mine, and 2 men are employed on the surface.

The mine worked 230 days during the year.  
Hugh G. Campbell is manager.

Colonial Coal Co., Ltd.

## COLONIAL COLLIERY—COLLINS SEAM.

The output for last year was 55,109 tons. There were 19,250 pounds of explosives used; 2.8 tons of coal being produced for each pound of explosives.

Barometer, 29.4 inches; thermometer, 58 degrees; water gauge, 1.5 inches; quantity of air in circulation, 20,000 cubic feet per minute.

There were used, during the year, 8,000 feet of 12-lb. and 1,400 feet of 30-lb. rails.

There are 114 men employed.

Maximum quantity of water that can be discharged in an hour is 24,000 gallons.

George B. Burchell is manager.

## Colonial Coal Co., Ltd.

## McKAY COLLIERY—McKAY SEAM.

This mine was abandoned October, 1914, and was reopened July 1st, 1915. There are eight men employed in the mine getting fire-clay and coal. The output was 1,456 tons.

James McCuish is manager.

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The following by W. F. DAVIS, *Deputy Inspector*, is reported respecting the mines in the Inverness District:—

## INVERNESS COLLIERY.

Owned and operated by the Inverness Railway & Coal Co.

The haulage slope is now 6,010 feet long;

A revolving screen has been erected on bankhead to screen the pea coal from slack.

The quantity of air in circulation is 85,000 cubic feet per minute.

There are 460 lead-plug safety lamps on hand. Mine is damp and free from dust. Number of men employed on surface, 95. Number of men employed in each section of the mine is as follows:—No. 7 east, 22; No. 8 east, 188; No. 9 east, 109; No. 9 west, 96; elsewhere in mine, 30; total, 445.

The average thermometer reading in the return airway is 58 degrees Fahrenheit.

The main haulage ropes are  $1\frac{1}{4}$  inches diameter. The travelling-slope rope is  $1\frac{1}{8}$  inches diameter.

There were 22,748 pounds of powder and 914 pounds of dynamite used during year.

Total output for year 233,259 tons, 10.2 tons of coal to 1 pound of powder.

The travelling roads are in good condition.



There were 16,826 square yards of brattice cloth used during the year.

Simon J. Doucett is manager.

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## CANADIAN ATLANTIC COAL CO., LIMITED.

### RICHMOND MINE.

Sinking was continued at this mine until March, 1915, when at a depth of 300 feet the pumps were drawn and mine allowed to fill. During March and April prospecting was done, and the two principal seams were uncovered at several places.

### CARIBOO COVE MINE.

Surface prospecting was done here in May. The seams were uncovered at several places along the crop.

### WHITESIDE MINE.

Surface prospecting during May. In September deep prospecting with a diamond drill was commenced, and is still in progress.

John McDonald is underground manager.

## PICTOU DISTRICT.

The following by R. H. Gray, *Deputy Inspector*, is reported respecting the mines in the Pictou District:—

### INTERCOLONIAL COAL COMPANY, LIMITED.

#### DRUMMOND COLLIERY—MAIN SEAM AND SECOND SEAM.

The output for the year was 189,818 tons of coal and 2,765 tons of fire clay.

No explosives were used in getting coal in either of the seams, until September 1st. Since this date, Monobel powder is in use in No. 7 levels north side second seam.

The ventilation, working faces and travelling-roads in both seams are in good condition.

This year a 26-foot brick extension was put to power house, also one new B. & W. boiler of 314 h. p. installed.

Marsaut safety lamps are used.

There were used 2,531 feet of 18-pound and 518 feet of 30-pound rails.

#### NO. 5 OR OLD ACADIA COLLIERY.

Operated by the Intercolonial Coal Co., Ltd.

This mine did not produce coal this year. Slopes and airways in good condition, also sufficient ventilation to keep mine free of gas. At No. 10 landing, a new pump was installed.

The pump is operated by 175 h. p. motor, 425 r. p. m. with crank-shaft speed of 61 r. p. m., against a head of 2,000 feet or about 875 pounds per square inch at pump. Power used in the mine a. c. 3 phase 550 volts.

This pump started to work on June 28th and requires to run 9 hours each day, pumping 250 U. S. gallons per minute.

William Maxwell is manager.

## ACADIA COAL COMPANY, LIMITED.

ALBION COLLIERY—FOORD SEAM, FOUR-FEET SEAM, CAGE SEAM,  
THIRD SEAM AND MCGREGOR SEAM.

The output for the year was 283,275 tons, an increase over the previous year of 69,065 tons, using 62,853 pounds of explosives: 4.5 tons coal per pound of explosives.

There were used 7 tons of 12-pound rails, 25 tons of 18-pound and 82 tons of 30-pound, in the mine.

The condition of the workings in all the seams is satisfactory. Travelling-roads and ventilation is good.

No new additions here have been made to surface plant.

Concrete walls and roof of 12-foot T beams filled in with concrete have been put in at the entrance of slope. Timber has been taken out and this concrete substituted for a distance of 50 feet, increasing area of slope from 54 to 80 feet.

The main slope has been relaid with 30-pound rails and new sills placed for a distance of 2,800 feet.

A new haulage road has been made to connect the cage seam and third seam levels at No. 6 landing. This involved about 1,600 feet of rock work. This new haulage-road has been laid with 30-pound rails and double-tracked for 2,000 feet from landing.

A fault has been struck in cage seam No. 7, level west, which has delayed the development work very much.

The pumping-shaft has been concreted with walls 12 inches thick for a distance of 90 feet from bottom of shaft.

A cement gun has been put in use at the mines. All the stoppings that were made of mine stone had leakages; plaster one inch thick was put over the faces of these stoppings which are now perfectly tight. This gun puts a mixture of cement and sand with a water spray on the stoppings in partly liquid form under a head of 35-pounds air pressure, which, when dry, shows a very hard surface.

Wolf safety lamps are in use.

Dan Gillis is manager of Albion Mines.

Samuel Moss is manager of McGregor Mine.



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ALLAN COLLIERY—FOORD AND CAGE SEAM.

Operated by the Acadia Coal Co., Ltd.

The output for the year was 41,204 tons. There were 12,259 pounds of explosives used. Wolf safety lamps are used.

Surface plant in first class condition. A box-car loader was installed and will soon be in operation. There were 12,080 pounds of rails used in mine.

After reopening referred to in my special report, general repairs were made to mine. Started to hoist coal on May 3rd and stopped on May 11th, owing to smell of smoke from east side, 51 pillar. Started to close section with concrete stoppings, finished May 29th.

Nothing done in mine, except pumping, until June 16th, when started again hoisting coal.

Started hauling water from 1,200 level July 27th. Water all out August 15th. Started to make repairs to 1,200 level at once. Owing to falls of roof, and presence of gas, there are sections in 1,200 level that I have not been able to get into as yet, but, from evidence to be seen in 1,200 level, at least two, possibly three, explosions passed through this section of mine. I am of the opinion that the first one occurred in 962 Foord west, No. 1, balance, travelling towards 1,200 level, disarranging the ventilation and leaving fire, making other explosions possible in this section.

Alexander Sutherland is mine manager.

## VALE COLLIERY—SIX FOOT SEAM.

Operated by the Acadia Coal Co., Ltd.

Started to take out equipment on February 4th, mine being pumped and ventilated until February 27th, when pumping was stopped. Pumps taken out of the mine and mine closed.

The following by E. B. PAUL, *Deputy Inspector*, is reported respecting the mines in the Cumberland District:—

#### SPRINGHILL No. 2. COLLIERY.

Operated by the Dominion Coal Company.

The output from No. 2 and No. 3 mine was 406,812 tons. The mine is in good condition; there are some dry districts which are sprinkled by water conveyed in  $\frac{3}{4}$ -inch pipes. The mine is gaseous but well ventilated with 115,000 cubic feet of air per minute in circulation, assisted by one Capell fan 15 by 5 feet, the fan-drift which was formerly at an area of 60 square feet is being enlarged to 80 square feet.

There has been no new machinery installed in the mine. One hoisting engine 16 by 20 inches has been placed. The mine is worked bord-and-pillar; Marsaut and Ackroyd & Best lamps are used.

The mine is divided into five sections, with 98, 92, 102, 117 and 108 men in each section, respectively, total 276 miners, 241 unskilled laborers; on surface there are 108 all grades and 39 officers.

W. D. Matthews is manager.

Date of inspector's visits:—

	<i>Barometer.</i>	<i>Thermometer</i>
October 20th, 21st, 1914.....	31.2 inches	60 degrees
November 18th, 20th, 23rd.....	31.2 “	60 “
December 16th, 17th, 18th.....	31.2 “	60 “
January 20th, 22nd, 23rd, 1915.....	31 “	60 “
February 10th, 12th, 15th.....	31.9 “	60 “
March 18th, 19th, 20th.....	30.7 “	60 “
April 15th, 16th, 17th.....	31.8 “	60 “
May 8th, 17th, 18th .....	31.5 “	60 “
June 15th, 16th, 17th.....	31.3 “	65 “
August 27th, 28th, 30th.....	31.2 “	60 “
September 28th, 29th .....	31.2 “	65 “

Explosives used: 150 pounds of Monobel per month.

#### SPRINGHILL No. 3 COLLIERY.

Operated by the Dominion Coal Co., Limited.

The coal in this slope is worked in No. 3 upper and lower seams, the mine is in very good condition, well ventilated with 95,000 cubic feet of air per minute in circulation, produced by one Capell

fan 22 feet by 3 feet 6 inches, and one Sirrocco (booster) at the west 3,800-foot lift. The mine is damp from the 3,800-foot lift to the surface, from the 3,800-foot lift down it is dry. The Marsaut and Ackroyd & Best lamps are used.

The mine is divided into three sections with 77, 130 and 76 men respectively, total 154 miners, 131 laborers and 101 men on the surface.

W. D. Matthews is manager.

Date of Inspector's visits:—

	<i>Barometer.</i>	<i>Thermometer.</i>
October 15th, 16th, 1914.....	31.2 inches	60 degrees.
November 5th, 7th .....	31.3 “	63 “
December 3rd, 4th.....	31.3 “	63 “
January 11th, 13th, 1915.....	31.2 “	62 “
February 18th, 20th .....	31.7 “	60 “
March 5th, 16th .....	30.8 “	58 “
April 5th, 6th, 30th.....	31.7 “	60 “
May 13th, 15th .....	31.6 “	60 “
June 10th, 11th .....	31.3 “	65 “
August 11th, 12th, 13th.....	31.3 “	58 “
September 9th, 10th .....	32.1 “	60 “

Explosives used: 160 pounds per month.

#### JOGGINS COLLIERY, JOGGINS SEAM.

Owned and operated by the Maritime Coal, Railway & Power Company, Limited.

The main slope which averages 6 feet by 10 feet, in the clear, is down 3,300 feet, and with air-slope, is in good condition.

The mine is damp and well ventilated with 30,000 cubic feet of air per minute in circulation, produced by a fan connected to a 95 h. p. motor. The mine makes very little gas, and Marsaut safety lamps are used.

Method of working is longwall-advancing, except, in the 1800-foot lift which is worked bord-and-pillar. The machines used in the longwall workings are quick-pick longwall bar-machines, electrically operated.

The development work is well advanced. Endless-rope haulage is used in the main slope and rope-haulage elsewhere in the mine.

The mine is divided into five sections, three of which are at present working; there are 18 men on the 1,800-foot lift, 135 on the 3,300-foot lift, and 135 on the 4,000-foot lift.

Robert J. Bell is manager.

There are 95 miners and 273 unskilled workmen underground, and 66 men on the surface. Explosives used are samsonite and black powder.

A fire pump, 100 gallons capacity per minute has been put into commission.

A new belt-conveyor has been installed, with a capacity of 50 tons per hour; this is operated by a 5 h. p. electric motor, and carries slack, pea or culm coal to the fire-doors, or any grade of coal to the loading pockets at the pier.

The track to the pier has been moved from the screens and the cars are filled from the belt-conveyor at a pocket near the boiler-house. This gives more room for box-cars at the screens and greatly facilitates loading, both for rail and water shipment.

New bunkers have been built at the fire-doors which are directly filled by the belt-conveyor, doing away with the loading and unloading of cars, and the shunting necessary to move them around the yard.

A reservoir is being constructed immediately behind the boiler-house for fire protection.

#### BLACK DIAMOND COLLIERY, MACCAN.

Owned and operated by the Maritime Coal, Railway & Power Company, Limited.

The slope is down 500 feet. Four levels are driven, two east and two west. The system of working is longwall up the hill. One small electric pump in the mine, one small locomotive boiler and a hoisting engine on the surface.

#### MINUDE COLLIERY, RIVER HEBERT.

Owned and operated by the Minudie Coal Company, Limited.

The slope is down 3,200 feet; it is 5 feet 6 inches high and 10 feet wide. The mine is naturally damp throughout, well ventilated



and very little gas, with 30,000 cubic feet of air per minute in circulation. Marsaut safety lamps are used.

The system of working is longwall advancing, the seam being 2 feet 6 inches thick with a dip of 19 degrees.

The workings are divided into 4 sections: 2,800-feet west, 5 men; 2,800-feet east, 32 men; 3,000-feet west, 8 men; 3,000-feet east, 8 men.

Workmen underground: 48 miners, 8 skilled, 14 unskilled, total 70. Surface workmen: 36 skilled, 31 unskilled, total 67.

John S. Barton is manager.

There has been no change on the surface, no machinery dis-used or new machinery installed.

#### VICTORIA COLLIERY, RIVER HEBERT.

Owned and operated by the Minudie Coal Company, Limited

The seam is 2 feet 6 inches thick, and the mine damp. There is no gas. Natural ventilation assisted by steam-pipe heat and steam jets, with 16,000 cubic feet of air per minute in circulation. The fan-shaft is 12 feet by 16 feet; return airway, 10 feet by 5 feet. There are four air-splits with stoppings of wood and stone. Open lights are used.

Method of working is longwall-advancing.

The workings are divided into 6 sections: 500-foot level No. 1 seam west, 14 men; 500-foot level No. 2 seam east, 19 men; 800-foot level No. 1 seam east, 14 men; 800-foot level No. 1 seam west, 16 men; 800-foot level No. 2 seam west, 12 men; 800-foot level No. 2 seam east, 16 men.

80 miners, 10 skilled workmen, 25 unskilled workmen, total 115. Underground 4 men, surface 2 men.

John S. Barton is manager.

Explosives used in Victoria and Minudie mine for the year were 3,833 pounds of dynamite and 23,507 pounds black powder. There were produced in this and the Minudie mine a total of 82,056 tons. The surface and machinery are unchanged.

## LAWSON COLLIERY, MACCAN.

Owned and operated by the Eastern Coal Company.

The slope is down 300 feet; two levels east and west have been driven 400 feet. The seam is 2 feet thick with a dip of 20 degrees.

At present they have 10 men employed. The machinery consists of one small pump, in the mine; one locomotive boiler and one small hoisting engine on the surface.

## JUBILEE COLLIERY, RIVER HEBERT.

Owned and operated by the Atlantic Coal Company.

The mine began operations May, 1915. The slope is down 180 feet. A level is driven east and west 200 feet. At present there are 7 men employed.

## KEMPT TOWN COLLIERY.

Operated by Ernest Chisholm.

The mine is situated five miles from Riversdale Station. The slope is down 600 feet, sunk in troubled ground. The seam is varied in thickness from 2 to 4 feet, with a dip at 25 degrees, pitch north 65 degrees west.

Two men are working at present. The machinery consists of one small pump, in the mine, hoisting engine and boiler on the surface.

The Provincial Coal Company's mine at Chignecto was closed on March, 1915.

Fundy Mine, Lower Cove, owned by the Atlantic Grindstone and Coal Company, Limited, was closed on July, 1915.



## SPECIAL REPORT.

### REOPENING ALLAN SHAFT.

Report of R. H. GRAY, *Deputy Inspector of Mines*, Pictou District, on reopening at Allan Shaft.

An explosion occurred at this mine at about 9.30 a. m. Sunday, December 20th, 1914. At the time of the explosion there were only two persons in the mine, the pumpman and a boy who were rescued. Some hours after the explosion the mine was entered by the Deputy Inspector of Mines, Mr. Thomas Blackwood; Mr. James Brown, superintendent of the mine; Mr. Alexander Sutherland, manager, and Mr. Neil McLean, underground manager, and in this unfortunate expedition gas was encountered, the Deputy Inspector and the Superintendent losing their lives in consequence. The mine was sealed off shortly afterwards at the surface, and remained in this condition from that date until Wednesday, March 31st, 1915.

In the interval, a study was made by Messrs. D. H. McDougall, general manager, and A. J. Tonge, chief engineer of the Dominion Coal Company. These gentlemen submitted a report and a recommendation regarding the reopening, and, in accordance with these suggestions, preparations were made for opening the mine.

The reopening of the Allan pits was started on March 31st, 1915.

An auxiliary exhaust-fan was placed on the third compartment of pit No. 1 which was to be used as a return airway, the air thus being circuited at 962 by the drifts surrounding pit No. 1, as well as by the pump room near No. 1 shaft. At a convenient point a line of ventilation would be branched on this circuit and would advance in the gallery or galleries, these being used as a fresh-air intake, and air-pipes being used as an outlet. The aim of this plan is the building of stoppings which would isolate the well known portion of the mine where the explosion is supposed to have occurred.

The No. 2 shaft remaining closed, the two hoisting compartments of No. 1 shaft were opened and the auxiliary fan was started.

When this was done, the water gauge at No. 2 shaft showed a pressure of 2 inches which was caused by the difference in the weight of the two columns of cold air in No. 1 shaft, and of warm

air in No. 2 shaft. No. 1 shaft was regularly cleaned. At noon hour on the same day, No. 1 shaft was cleaned as far as the 476 landing. Before passing this landing, it was found necessary to close several openings in the partition dividing the two first compartments of the third one.

This was rapidly completed, and it was thought advisable to close the communication existing between the two shafts at 476, so as to prevent the gases at this point from entering No. 1 shaft driven down 962 by the current of ventilation.

This work was done by Draegermen who were then taken down to the 962 landing to build a temporary stopping between the east landing and the pump room.

On the morning of the 1st of April, the landing at 962 was cleared. We were able to proceed in the drift joining the two pits. Men were busy placing a door at A, figure 1, and erecting the temporary stoppings B through which were to pass the ventilation pipes.

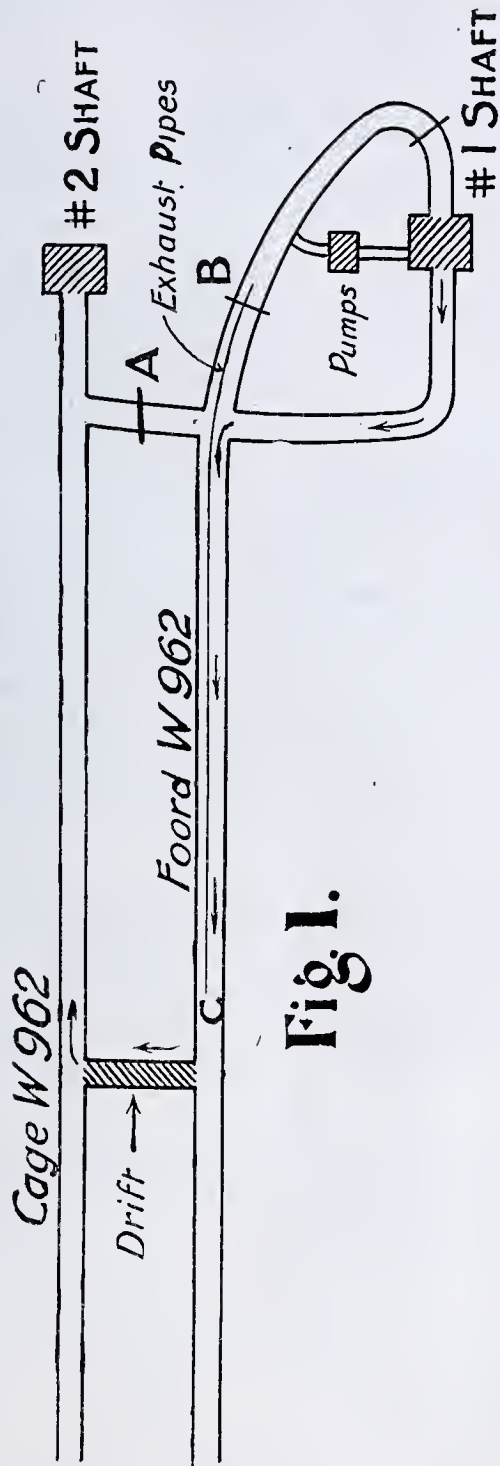
A few minutes later we were advancing as far as 208 feet towards the west in the Foord west level 962, as far as the foot of the fall where Superintendent Brown had fallen. The air was free of gas, but gas was found a few feet in front of the fall.

It seems evident today that as soon as the door A was placed, a natural ventilation took place, entering by the Foord seam west level, passing through the first stone-drift, going from Foord seam to Cage seam, and returning to No. 2 shaft by way of Cage west level 962.

In the afternoon of the same day, noticing that the air was entering in Foord west, it was observed that the air was returning in the first stone-drift Foord Cage 962 west. We were able to penetrate in this drift and proceeded half way between the first and second stone-drifts where the gas was found.

Following this, a consultation was held at which it was decided :

1. To build in the main stone-drift, 476, a tight stone-drift so as to make sure that no circuit of ventilation could take place from 962 towards 476 in passing on the dangerous zones.
2. To place a canvas in the first stone-drift west.
3. To place a canvas in the Foord west level 962.
4. To open slightly the door A which was placed at 962 between the two shafts.

**Fig. 1.**

The stopping at 476 was built immediately. The canvas on the first stone-drift Foord Cage 962 west drove the air back on the second stone-drift Foord Cage 962 which we could reach. The canvases were equally placed.

On April 2nd, notwithstanding, the opening made in the door A, an opening which was allowing the air to pass from No. 1 shaft to No. 2 shaft, the air was still going through the Foord west 962 level, returning to No. 2 shaft by the West Cage level 962.

In order to make sure of this fact, we went to the foot of No. 2 shaft without finding any indication of gas, then in the Cage-Pit level to the extremity of the second stone-drift coming from the Foord. This level was free of gas.

We were still working at the 476 stopping. The canvas for ventilation purposes had been placed on the Foord west level 962 inside of the second stone-drift.

On April 3rd, it was possible to advance to the foot of the incline, and a certain distance up this gallery, notwithstanding the presence of a canvas on the Foord west level.

The ventilation pipes had not yet reached the first stone-drift. Some of the air descending from No. 1 shaft was returning in the exhaust pipes, but most of the air carried by natural ventilation was passing in front of the pipes going in the first stone-drift and returning to No. 2 shaft.

In the meantime, the stopping at 476 had been completed. During a visit made at 10.30 A. M., the same day, we could go along the west Foord level to the head coming from 1200 at the western extremity of the Foord level 962. The gas was heavy. It was thought necessary to put another canvas more to the west on the level. This work was done by Draegermen during the day of the 4th.

During the 5th of April, men were busy completing the two stoppings which existed formerly in the second stone-drift. At the same time, ventilation pipes were advanced towards the canvas, and the debris of the level was cleared away.

The ventilations which were existing then were:—

1st. Ventilation created by the auxiliary fan, the air returning to the ventilation pipes.

2nd. Natural ventilation heavier than the first, see Fig. 2.

Closing the openings as we were finding them, the closing of the head in C by a canvas, gave us immediately the circuit shown by arrows on figure 2.



CH<sub>4</sub> Cage W 962

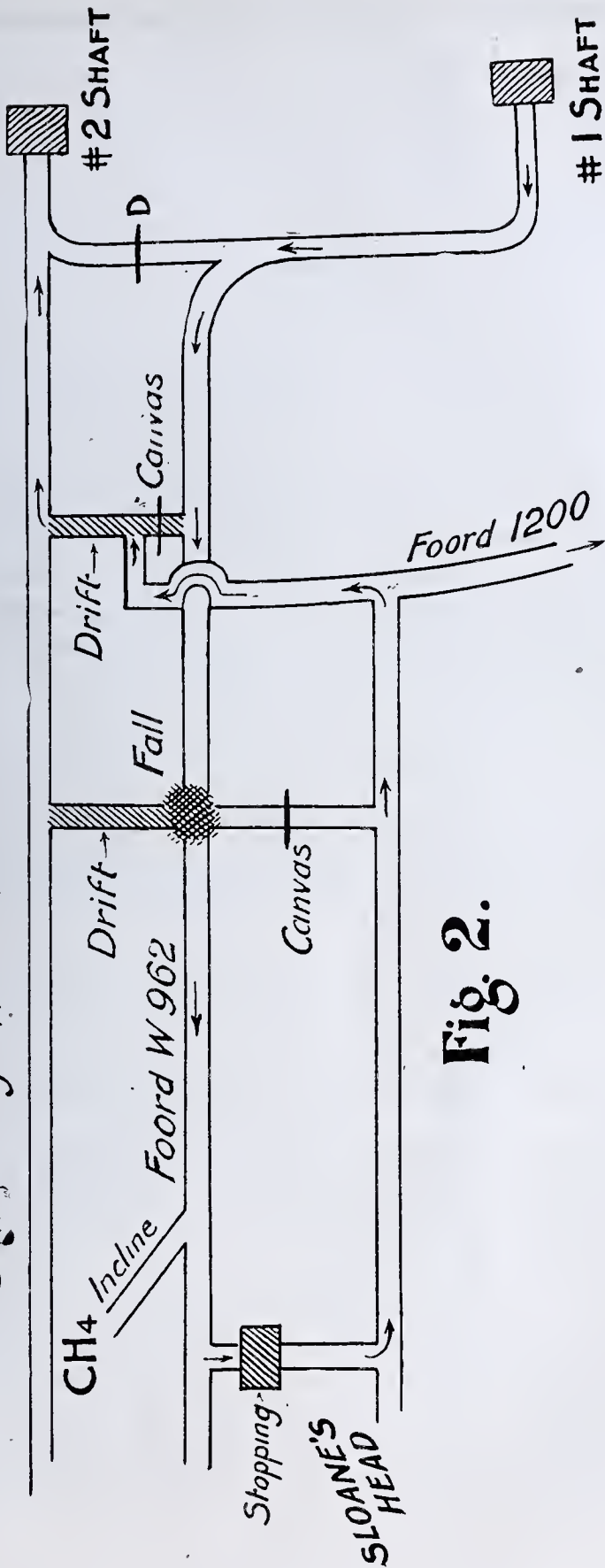


Fig. 2.

This ventilation enabled us to reach the head at the western extremity of the roadway head in which we had to build our first stopping.

The ventilation pipe being still a few feet past the second stone-drift, the stopping at the end of the level was immediately started by ordinary workmen. The stopping was started April 6th at 9 A. M. and completed 24 hours after, on April 7th.

The last stopping was completed on April 8th early in the morning. All the west Foord section 962 was therefore isolated at the bottom on this date.

In the meantime a crew of Draegermen were going up the incline at Foord west 962 to ascertain the point of explosion, the men went up this incline and found that the door which had been closed on Friday evening preceding the explosion, had been blown out eastwards, that is from the sealed-off section towards the outside. Moreover, the empty mine boxes which were on this roadway, had been projected towards the incline.

There is, therefore, no doubt that the explosion came from the pillar section west Foord 962.

From the indications, we found the explosion has travelled towards the west Foord 962, and also towards 1200. This section being under water, we cannot ascertain to which point this branch of the explosion did travel.

We remain, however, of the opinion that it travelled to No. 1 shaft at the level 1200.

This completes the first part of the work of reopening 962, that is the sealing-off at the bottom of the zone at this level.

The second part of the programme includes the reopening of the 476 section, a reopening in itself, but mostly to ascertain if the four stoppings which were closing the upper pillar section (Foord 962-476) were intact or not.

So as to make sure that no movement of air due to natural ventilation could take place either between 962 and 476, or from 962 west to 476 returning to 962 east, it was decided to build two stoppings on the Cage west 962, and in the counter level of the same way immediately to the east of the cage raise. Also stoppings on the east side of No. 2 shaft, so as to close any possible connection between 476 and 962 east.



This work was started on April 8th and was completed on April 9th about 3 P. M.

At this time the cupola of the fan was opened, also the door between the two shafts at 476. The natural ventilation took effect in descending No. 1 shaft at 476 coming up in No. 2 shaft, which gave us access to No. 2 shaft at 476. This ventilation did not interfere with the ventilation that existed at 962.

This allowed stoppings to be built against No. 2 shaft at 476 and to start laying the exhaust pipes.

On April 9th, the auxiliary fan stopped, and notwithstanding this, the exhaust pipes which were branched on it kept exhausting under the entire influence this time of the natural ventilation.

On April 9th, the auxiliary fan stopped, and notwithstanding drift 476 opened. A rush of gas took place first without the pipe being able to evacuate it. Two hours after, however, the pipes took care of all the gas, leaving free all the roadway extending up to the pipes.

We have just reached this point of the programme. The natural ventilation gives us at present all the necessary air, and we will continue to make use of this natural ventilation.

When it will decrease to the point of being sufficient, the mine fan will be started, according to requirements, the 476 stone-drift being the air intake, the ventilation pipes and No. 2 shaft being the outlet.

Monday, the 12th, the 476 west region above the zone of the explosion was explored by successive parties of Draegermen, and stoppings found to be intact. These exploring parties were headed by overmen McLean and Scully, and they reported little or no sign of force in the roadways they travelled.

On Tuesday, the 13th, the mine fan was started and gradually sped up until it was delivering about 25,000 cubic feet per minute. During Tuesday night, men were working in fresh air, getting ready for two new stoppings in the 476 and counter levels. These two stoppings were completed on Saturday, the 17th.

The horses that were in the 962 and 476 landings at the time of the explosion, were taken out on Sunday, the 18th, without much trouble. The carcasses were in a remarkable state of preservation. Upon completion of this work, the parts of the mine above level 476 were cleared of gas slowly, section by section by barefaced men.

This work occupied about one week.

## REGULATIONS FOR THE INSTALLATION AND USE OF ELECTRICITY IN THE COAL MINES OF NOVA SCOTIA.

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These rules shall not apply in the case of any apparatus used above ground, except such as may directly affect the safety of persons below ground.

### I. THE USE OF ELECTRICITY PERMITTED IN CERTAIN PLACES.

The use of electricity is permitted in any mine or any part of a mine unless the conditions in regard to the risk of explosion of gas or coal dust are such that the Inspector or a Deputy Inspector of Mines shall, by notice in writing to the owner, agent or manager prohibit such use.

In case any difference of opinion shall arise between the Inspector or Deputy Inspector of Mines and the owner, agent or manager under this rule, the same shall be settled by arbitration as provided by Section 43, sub-section 2 of The Coal Mines Regulation Act.

### 2. NOTICES FOR INSPECTOR OR DEPUTY INSPECTOR.

Notices shall be sent to the Inspector or Deputy Inspector of Mines on the forms prescribed by the Commissioner, as follows, namely:—

- (a) Notice of any existing apparatus, to be sent within one month from the date on which these rules come into force;
- (b) Notice of the intention to introduce apparatus into any mine or into the ventilating district in any mine;
- (c) Notice of the intention to introduce or reintroduce electricity into any mine where the use of electricity has not been permitted;
- (d) An annual return, giving the size and type of apparatus and any particulars which may be required by the Commissioner as to the circumstances of its use.

If the Inspector or Deputy Inspector of Mines does not object in writing within one calendar month from the receipt by him of the notice to the carrying out of either of the intentions specified in (b) or (c) the owner shall be entitled to carry out such intention or intentions.

### 3. PLAN.

A proper plan on the same scale as that kept at the mine, in fulfillment of the requirements of The Coal Mines Regulation Act, shall be kept in the office at the mine, showing the position of all fixed apparatus in the mine, other than cables, telephones, signalling apparatus, lamps and switches controlling lamps. The said plan shall be corrected as often as may be necessary to keep it reasonably up to date, and it shall be produced to an Inspector or Deputy Inspector of Mines at any time on his request.

### DEFINITIONS.

“System” means an electric system in which all the conductors and apparatus are electrically connected to a common source of electro-motive power.

“Pressure” means the difference of electrical potential between any two electrical conductors.

“Low Pressure” means a pressure in a system normally not exceeding 250 volts, where the electrical energy is used.

“Medium Pressure” means a pressure in a system normally above 250 volts, but not exceeding 650 volts, where the electrical energy is used.

“High Pressure” means a pressure in a system normally above 650 volts, but not exceeding 3,000 volts, where the electrical energy is used or supplied.

“Extra High Pressure” means a pressure in a system normally exceeding 3,000 volts, where the electrical energy is used or supplied..

“Conductor” means an electrical conductor arranged to be electrically connected to a system.

“Apparatus” means electrical apparatus, and includes all apparatus, machines and fittings in which conductors are used, or of which they form a part.

“Circuit” means an electrical circuit forming a system or branch of a system.

“Covered with insulating material” means adequately covered with insulating material of such quality and thickness that there is no danger.

“Metallic Covering” means iron or steel armouring, with or without a lead or other metallic sheath, as the conditions of the case may require, or an iron or steel pipe surrounding one or more conductors.

“Bare” means not covered with insulating material.

“Live” means electrically charged.

“Dead” means not electrically charged.

“Open Sparking” means sparking which, owing to the lack of adequate provision for preventing the ignition of inflammable gas external to apparatus, would ignite such inflammable gas.

“Grounded” means connected to the general mass of ground in such manner as will ensure at all times an immediate discharge of electrical energy without danger.

“Grounding System” means an electrical system in which all the conductors are grounded.

“Switch Gear” means switches or fuses, conductors and other apparatus in connection therewith, used for the purpose of controlling the current or pressure in any system or part of a system.

“Authorized Person” or person authorized, means a person appointed by the manager of the mine to carry out certain duties incidental to the generation, transformation, distribution or use of electrical energy in or about the mine, such person being a person who is competent for the purposes of the rule in which the term is used

“Electrician” means a person appointed by the manager of the mine to supervise the apparatus in the mine, and the working thereof. Such person must be a person over 21 years of age and competent for the purposes of the rule in which the term is used.



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### 5. NOTICES TO WORKMEN.

The following notices constructed of durable material shall be exhibited:

- (a) A notice prohibiting any person other than an authorized person from handling or interfering with apparatus;
- (b) A notice containing directions as to the procedure in case of fire.

The notices under (a) and (b) shall be exhibited in every place containing stationary apparatus other than cables, telephones and signalling apparatus.

- (a) A notice prohibiting any person other than an authorized person from handling or interfering with apparatus;
- (b) A notice containing directions as to the procedure in case of fire.

The notices under (a) and (b) shall be exhibited in every place containing stationary apparatus other than cables, telephones and signalling apparatus.

(c) A notice containing directions as to the restoration of persons suffering from the effects of electric shock. This notice shall be exhibited in every generating, transforming and motor house;

(d) A notice containing instructions how to communicate with the persons appointed under rule 15 (1). This notice shall be exhibited at the shaft bottom or at the slope's mouth.

### 6. LIGHTING.

(a) In all places lighted by electricity where a failure of the electric light would be likely to cause danger, one or more safety lamps or other proper lights shall be kept ready for use;

(b) No electric current shall be used for lighting purposes of a higher voltage than low pressure in any part of a mine;

(c) Electric lamps must be of the vacuum type, enclosed by gas-tight fittings of strong glass and have no flexible cord connections;

(d) Electric lamps shall be placed or replaced only by an authorized person;

(e) All wiring for electric lighting circuits shall have an approved insulating covering and may be conveyed in metallic piping or similar casings or suspended from porcelain or glass insulators, securely fastened; and shall not touch any timbering, coal or other inflammable materials;

(f) If metallic pipes or similar casings are used they must be grounded. If separate uncased wires are used they shall be kept at least three inches apart, and not brought together except at lamps or fittings.

#### 7. TELEPHONES.

(a) Efficient telephonic or other equivalent means of communication shall be provided for communicating between the place in which the switch gear provided under rule 14 is erected and the shaft bottom or main distributing centre in the pit;

(b) All mines to which entrance to the underground working is by shaft only and all others in which the working places underground extend more than one mile from a place of exit shall be provided with telephones, provided the number of men employed in the mine at any one time on the regular working force exceeds twenty;

(c) If the wires of such telephone system should extend on the surface they shall be erected in such a manner as to prevent them coming in contact with lighting or power wires, and such circuits shall not extend over 1,000 feet from the mine exit or place where they enter the mine. They shall be provided with an approved lightning arrester placed where such wires enter the mine;

(d) No such telephone circuit shall be permanently connected to any surface telephone system.

#### 8. FIRE BUCKETS.

Fire buckets, filled with clean, dry sand or other suitable material for extinguishing fires, shall be kept ready for immediate



use in every place containing stationary apparatus other than cables, telephones, and signalling apparatus.

#### 9. LIGHTNING.

Lightning arresters, properly adjusted and maintained, shall be provided, where necessary, to prevent danger.

#### 10. HOUSING OF APPARATUS AND WORKING SPACE.

(a) Where necessary to prevent danger or mechanical damage, transformers and switchgear shall be placed in a separate room, compartment or box;

(b) Unless the apparatus is so constructed, protected and worked as to obviate the risk of fire, no inflammable material shall be used in the construction of any room, compartment or box containing apparatus, or in the construction of the fittings therein. Each such room, compartment, or box shall be substantially constructed, and shall be kept dry;

(c) Adequate working space and means of access, clear of obstruction and free from danger, shall be provided for all apparatus that has to be worked or attended to by any person, and all handles intended to be operated shall be conveniently placed for that purpose;

(d) All transformers used underground for transforming to a permanent pressure shall be double wound static transformers of an approved type. They shall be placed in a suitable fire-proof room closed off from the rest of the mine by a grating of non-inflammable material. If oil-cooled transformers are used this room shall be of such design that any leakage of oil shall be confined to the room.

#### 11. THE CONSTRUCTION OF APPARATUS AND THE INSULATION OF A SYSTEM.

(a) All apparatus and conductors shall be sufficient in size and power for the work they may be called upon to do, and so constructed, installed, protected, worked and maintained as to prevent danger so far as reasonably practicable;

(b) All insulating material shall be chosen with special regard to the circumstances of its proposed use. It shall be of mechan-

ical strength sufficient for its purpose, and, so far as is practicable, it shall be of such a character or so protected as fully to maintain its insulating properties under working conditions of temperature and moisture;

(c) Every part of a system shall be kept efficiently insulated from ground, except that:

(1) The neutral point of a polyphase system may be grounded at one point only;

(2) The mid voltage point of any system may be grounded at one point only;

(d) Efficient means shall be provided for indicating any defect in the insulation of a system.

## 12. GROUNDING.

(a) All metallic sheaths, coverings, handles, joint boxes, switchgear frames, instrument covers, fuse covers and boxes and all lamp holders, unless efficiently protected by a grounded or insulating covering made of fire resisting material, and the frames and bedplates of generators, transformers and motors, including portable motors, shall be grounded by connection to a grounding system above ground, and in addition, where possible, shall be grounded at some point near to the individual apparatus itself;

(b) Where the cables are provided with a metallic covering, constructed and installed in accordance with rule 16, such metallic covering may be used as a means of connection to the grounding system. All the conductors of a grounding system shall have a conductivity at all parts and at all joints at least equal to fifty per cent. of that of the largest conductors used solely to supply the apparatus, a part of which it is desired to ground, provided that no conductor of a grounding system shall have a cross-sectional area of less than number eight B. and S. gauge;

(c) All joints in ground conductors and all joints to the metallic covering and the cables shall be properly soldered or otherwise efficiently made. No switch fuse or circuit breaker shall be placed in any ground conductor.

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.. 13. USE OF HIGH OR EXTRA HIGH PRESSURE.

(a) Where electricity is distributed at a pressure higher than medium pressure:

(1) It shall not be used without transformation to medium or low pressure, except in fixed machines in which the high or extra high pressure parts are stationary;

(2) Motors under twenty horse power shall be supplied with current through a transformer stepping down to medium or low pressure. All transformers, both primary and secondary, shall be provided with suitable automatic overload device.

(b) Where energy is transformed, suitable provision shall be made to guard against danger by reason of the lower pressure apparatus becoming accidentally charged above its normal pressure, by leakage from or contact with higher pressure apparatus.

14. SWITCHGEAR, ETC.

(a) Switchgear and all terminals, cable ends, cable joints and connections of apparatus shall be constructed and installed so that—

(1) All parts shall be of mechanical strength sufficient to resist rough usage;

(2) All conductors and contact areas shall be of ample current-carrying capacity and all joints in conductors shall be properly soldered or otherwise efficiently made;

(3) The lodgment of any matter likely to diminish the insulation, and of coal-dust on or close to live parts shall be prevented;

(4) All live parts shall be so protected or enclosed as to prevent accidental contact by persons and danger from arcs or short circuits, fire or water;

(5) Where there may be risk of igniting gas, coal-dust or other inflammable material, all parts shall be so protected as to prevent opening sparking.

## 15. CONTROL OF THE SUPPLY OF CURRENT.

(a) Properly constructed switchgear for cutting off the supply of current to the mine shall be provided at the surface of the mine, and during the time any cable is live a person authorized to operate the said switchgear shall be available within easy reach thereof;

(b) Efficient means, suitably placed, shall be provided for cutting off all pressure from every part of the system, as may be necessary to prevent danger;

(c) Such efficient means shall be provided for cutting off all pressure automatically from the part or parts of the system affected in the event of a fault, as may be necessary to prevent danger;

(d) Every motor shall be controlled by switchgear for starting and stopping, so arranged as to cut off all pressure from the motor and from all apparatus in connection therewith, and so placed as to be easily worked by the person appointed to work the motor;

(e) Each branch circuit inside a mine shall be controlled by an independent switch and in any gaseous mine all switches shall be of the oil inclosed or other approved type.

## 16. CABLES.

All cables other than flexible cables for portable apparatus and signalling wires shall comply with the following requirements:

(a) They shall be covered with insulating material. The lead sheath of lead-sheathed cables and the iron or steel armoury of armoured cables shall be of not less thickness respectively than one thirty-second part of an inch;

(b) If laid on the pavement they shall be protected to prevent danger and mechanical damage by boxing or casing or other efficient method; if suspended and protected by metallic covering, they shall be supported at sufficiently frequent intervals by some readily breakable material; if suspended and not protected by metallic covering, they shall be properly secured by some nonconducting and readily breakable material to efficient insulators;

(c) Two-core or multi-core cables protected by a metallic covering, or single-core cables protected by a metallic covering, which shall contain all the conductors of the circuit, shall be used:



- (1) Where the pressure exceeds low pressure;
- (2) Where the roadway conveying the cables is also used for mechanical haulage;
- (3) Where there may be risk of igniting gas, coal-dust or other inflammable material.

Provided that if medium pressure is used:

- (1) Single-core cables protected by metallic coverings may be used for any circuit if the said metallic coverings are bonded together by ground conductors so placed that the distance between any two consecutive bonds is not greater than 100 feet measured along either cable, and:
  - (2) Single-core cables covered with insulating material efficiently protected otherwise than by a metallic covering may be used except in places which are used for mechanical haulage, or where there may be risk of igniting gas, coal-dust or other inflammable material.
- (d) The metallic covering of every cable shall be:
  - (1) Electrically continuous throughout.
  - (2) Grounded, if it is required by Rule 12 to be grounded, by a connection to the grounding system of not less conductivity than the same length of the said metallic covering;
  - (3) Efficiently protected against corrosion where necessary;
  - (4) Of a conductivity at all parts and at all joints at least equal to fifty per cent. of the conductivity of the largest conductor enclosed by the said metallic covering;
  - (5) Where there may be a risk of igniting gas, coal-dust, or other inflammable material, so constructed as to prevent as far as is practicable any fault or leakage of current from the live conductors from causing open sparking.

Provided that where single-core cables protected by metallic coverings bonded together in accordance with Rule 16c are used

for a circuit, the conductivity of the said metallic coverings at all parts and at all joints shall be at least equal to twenty-five per cent. of the conductivity of the conductor enclosed thereby.

(e) Cables and conductors, where joined to motors, transformers, switchgears, and other apparatus, shall be installed so that :

(1) They are mechanically protected by securely attaching the metallic covering (if any) to the apparatus;

(2) The insulating material at each cable end is efficiently sealed so as to prevent the diminution of its insulating properties. Where necessary to prevent abrasion or to secure gas-tightness there shall be properly constructed bushes.

(f) All cables used in shafts must be highly insulated and substantially fixed. Shaft cables not capable of sustaining their own weight shall be properly supported at intervals according to the weight of the cable;

(g) Main cables, unless the Inspector or Deputy Inspector of Mines for good cause otherwise permits, shall be taken into the mine only by way of the intake air-way or through separate openings provided especially for the purpose;

(h) All high and medium voltage wires on the surface, if not trenched, shall be maintained at least twenty feet from the ground except where they enter the mine or transformer station, at which point they shall be adequately protected. All low voltage live wires on the surface shall be maintained at least ten feet above the ground at the lowest point, except where they enter the mine.

#### 17. PORTABLE APPARATUS.

(a) Flexible cables for portable apparatus shall be two-core or multi-core and covered with insulating material which shall be efficiently protected from mechanical damage. If a flexible metallic covering be used as a means of protection from mechanical damage, the same shall not alone be used to form a ground conductor for the portable apparatus;

(b) Every flexible cable for portable apparatus shall be connected to the system and to the portable apparatus itself by a properly constructed connector;



(c) At every point where flexible cables are joined to main cables a switch capable of entirely cutting off the pressure from the flexible cables shall be provided.

#### 18. SUPERVISION AND WORKING OF APPARATUS.

(a) Every person appointed to work, supervise, examine, or adjust any apparatus shall be competent for the work he is set to do. No person except an electrician or competent person acting under his supervision shall undertake any work where technical knowledge or experience is required in order adequately to avoid danger;

(b) When these rules come into force an electrician shall be appointed by the manager to supervise the apparatus. If necessary for the proper fulfillment of the duties detailed in the succeeding sections of this rule, the manager shall appoint an assistant or assistants to the electrician;

(c) The electrician, or one of his assistants, shall be in daily attendance at the mine. He shall be responsible for the fulfillment of the following duties, which shall be carried out by him or by an assistant or assistants duly appointed under subsection (b).

(1) The thorough examination of all apparatus (including the testing of ground conductors and metallic coverings for continuity) as often as may be necessary to prevent danger.

(d) The examination and testing of all new apparatus, and of all apparatus re-erected in a new position in the mine before it is put into service in the new position;

(d) The electrician shall keep at the mine a daily record in the form prescribed by the Commissioner in a record book provided for that purpose. Such record book shall be produced at any time to an Inspector or Deputy Inspector of Mines at his request;

(e) Should there be a fault in any circuit the part affected shall be made dead without delay, and shall remain so until the fault has been remedied;

(f) All apparatus shall be kept clear of obstruction and free from dust, dirt or moisture, as may be necessary to prevent danger;

(g) Inflammable or explosive material shall not be stored in any room, compartment or box containing apparatus or in the vicinity of apparatus;

(h) Adequate precautions shall be taken by grounding or other suitable means to discharge electrically any conductor or apparatus, or any adjacent apparatus if there is danger therefrom, before it is handled, and to prevent any conductor or apparatus from being accidentally or inadvertently electrically charged when persons are working thereon. Provided that this section shall not apply to the cleaning of commutators and slip rings working at low or medium pressure.

(i) The person authorized to work an electrically driven coal-cutter or other portable machine shall not leave the machine while it is working, and shall, before leaving the working place, ensure that the pressure is cut off from the flexible trailing cable which supplies such coal-cutter or other portable machine. Trailing cables shall not be dragged along by the machine when working.

(j) Every flexible cable shall be examined periodically, if used with a portable machine, at least once in each shift, by the person authorized to work the machine, and if found damaged or defective it shall forthwith be replaced by a spare cable in good and substantial repair. Such damaged or defective cable shall not be further used underground until after it has been properly repaired.

#### 19. THE USE OF ELECTRICITY WHERE INFLAMMABLE GAS IS LIKELY TO BE PRESENT.

In any part of a mine in which inflammable gas, although not normally present, is likely to occur in quantity sufficient to be indicative of danger, the following additional requirements shall be observed:

(a) All cables, apparatus, signalling wires and signalling instruments, shall be constructed, installed, protected, worked and maintained, so that in the normal working thereof there shall be no risk of open sparking;

(b) All motors shall be constructed so that when any part is live, all rubbing contacts (such as commutators and sliprings) are so arranged or enclosed as to prevent open sparking;

(c) The pressure shall be switched off apparatus forthwith if open sparking occurs, and remain so during the whole time that examination or adjustment disclosing parts liable to open sparking is being made. The pressure shall not be switched on again until the apparatus has been examined by the electrician or one of his duly appointed assistants and the defect (if any) has been remedied or the adjustment made;

(d) A safety lamp shall be provided and used with each motor when working, and should any indication of gas appear in such safety lamp the person appointed to work the motor shall forthwith cut off the pressure therefrom and report the matter to a deputy or overman or other official;

(e) Before starting an electrical coal cutting machine or before such machine is brought within twenty yards from the working place in a gaseous part of a mine, the machine man shall make an inspection for gas in the place where the machine is to work. If any explosive gas is found in the place the machine shall not be started or enter therein until the gas is removed;

(f) In any part of a mine if for any reason the normal ventilation is stopped, the pressure shall be switched off and shall not be again switched on until normal ventilation has been resumed.

## 20. SHOT FIRING.

(a) Current from lighting or power circuits shall not be used for firing shots;

(b) Shot firing cables shall be covered and protected as provided by Rule 17a for flexible cables. Adequate precautions shall be taken to prevent them from touching other cables and apparatus; and apparatus;

(c) All apparatus used for shot-firing electrically shall be of a type approved by the Inspector or Deputy Inspector of Mines for the conditions under which it is to be used;

(d) Where battery or magneto exploders are used they shall be enclosed in a suitably constructed box, fitted with a removable connecting plug or key without which the circuit cannot be closed. This plug or key shall be detached when not required for firing and shall not under any conditions pass from the personal custody of the shot firer while on duty;

(e) Exploders shall be frequently tested and the insulation of firing cable frequently examined by the shot firer. The exploder shall not be connected to the shot firing cable until all other steps preparatory to the firing of the shot shall be completed and all persons have removed to a place of safety. Immediately after the firing of the shot the firing cable shall be disconnected from the exploder, and no person shall approach a shot that has been attempted to be fired by electricity and has failed to explode until the firing cable has been so disconnected, and an interval of five minutes has elapsed since the last attempt to fire the shot.

## 21. SIGNALLING.

(a) Where electricity is used for signalling the pressure in any one circuit shall not exceed twenty-five volts. This pressure shall not be produced by transforming from a higher pressure;

(b) Contact-makers shall be so constructed as to prevent accidental closing of the circuit;

(c) Adequate precautions shall be taken to prevent signal and telephone wires from touching cables and other apparatus.

## 22. ELECTRIC RELIGHTING OF SAFETY LAMPS.

(a) All relighting apparatus shall be so constructed, worked and maintained as to preclude the accumulation of explosive gas within it;

(b) Relighting apparatus shall not be used in any part of a mine where inflammable gas is present in dangerous quantity or in any place in the mine objected to by a deputy Inspector;

(c) Where relighting apparatus is used a suitable station or stations shall be chosen and relighting apparatus shall not be used in any other place in the mine;

(d) Relighting stations shall be in charge of authorized persons, and no person other than the said authorized persons shall use the relighting apparatus;

(e) All safety lamps shall be examined by an authorized person appointed under sub-section (d) hereof before being relighted, and again examined before being issued.



## 23. ELECTRIC FANS.

Where a mine ventilating fan is driven by an electric motor and there is no auxiliary or no variable speed second fan provided, such electric motor shall be of a variable speed or some other means of regulating the quantity of air provided.

## 24. ELECTRIC HOISTING.

All electric apparatus used for hoisting from shafts or slopes shall be equipped with efficient brakes, distinct signalling arrangements, and sufficient automatic devices to prevent runaways or overwinds.

## 25. ELECTRIC LOCOMOTIVES.

(a) Haulage by electric locomotives shall not be permitted in any part of a mine where there is danger from the ignition of gas;

(b) On the roads where there is haulage by electric locomotives, travelling by men will not be permitted;

(c) (1) Trolley wires shall be kept as high as possible and to one side of the track where practicable.

(2) They shall be run in grooved boxes or specially protected by guardboards or otherwise.

(d) Notices, constructed of durable material, calling attention to the danger from the live wires, shall be prominently posted at all the crossings and landings;

(e) In no case shall the voltage between any conductors and ground exceed the limits of low pressure.

## 26. EXEMPTIONS.

(a) Any of the foregoing requirements shall not apply in any case in which exemption is obtained from the Commissioner on the ground either of emergency or special circumstances, on such conditions as the Commissioner may prescribe;

(b) The requirements of the foregoing rules which relate to the construction of cables or other apparatus shall not, before the



first day of January, 1920, apply to any apparatus which was in use before the going into effect of these requirements, unless an Inspector or Deputy Inspector of Mines, by written notice served on the owner, agent or manager as regards either all or any of the said requirements of the foregoing rules, so directs. If the owner, agent, or manager, within ten days after the receipt of such notice, objects to comply with the requirements specified in the notice, the matter shall be referred to arbitration as provided by section 43, sub-section 2, of "The Coal Mines Regulation Act."

## 27. DUTIES AND PENALTIES.

(a) It shall be the duty of the owner, agent and manager to comply with and enforce the foregoing rules, and it shall be the duty of all workmen and persons employed to conduct their work in accordance with the said rules;

(b) The owner, agent or manager of any mine who violates or fails to comply with any of these rules shall be guilty of an offence and liable to a penalty not exceeding one hundred dollars, or to imprisonment for a term not exceeding six months, or to both;

(c) Any person who shall wilfully tamper with, or make any unauthorized changes in, or connections to, any part of the electrical circuits or apparatus in, or used in connection with, a mine, whether such circuits are alive or not, or who shall wilfully cause any other person to come in contact with any live electrical circuits, shall be guilty of an offence and liable to a penalty not exceeding twenty-five dollars or to imprisonment for a term not exceeding three months, or to both;

(d) Proceedings for the recovery of the penalties in (b) and (c) prescribed shall be taken under the "Nova Scotia Summary Convictions Act," and may be instituted by any one of the persons mentioned in Section 59 of "The Coal Mines Regulation Act."

(e) Any prosecution for a penalty shall be commenced within six months of the date of the commission of the offence.

REPORT OF THE  
METALLIFEROUS MINES OF NOVA SCOTIA.

*Year Ended September 30, 1915.*

BY PROFESSOR STANLEY N. GRAHAM, B. S.

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GOLD.

During the past year 24,420 tons of gold ore were crushed, producing 5,517 oz. 16 dwt. 20 grs. Including the gold contained in the antimony ore from West Gore the total production amounts to 7,216 oz. 1 dwt. 20 grs.. This is an increase of 4,099 ounces compared with last year's production and is the largest since 1911.

Considering only the production from the gold mines the increase is 2,400 oz. 15 dwts. 4 grs., compared with last year and is also the greatest production since 1911. While, generally speaking, the gold mining industry is not in a flourishing condition these figures should afford a great deal of encouragement.

Of the production from gold mines 62 per cent. came from two properties, the Goldenville Mining Company at Goldenville, and the Bendigo Mining Company at Forest Hill. Both of these companies have had to do a large amount of work during the year in order to get their properties into condition to be operated economically and neither have worked at full capacity throughout the year. It is reasonable, then, to expect that their production will be greater next year.

With so many known auriferous leads it is highly improbable that these are the only two properties in which pay ore is to be found. That this is not the case is shown in the recently re-opened mines at Montague, where good milling ore and some "bonanza" ore is being produced. The successful operation of these properties should give encouragement to other owners to work mines now lying idle.

The first two mentioned mines afford excellent examples of diametrically opposite types. At Goldenville a wide belt with several

veins and stringers is mined and milled as a low grade ore. For such mining a large mill and cheap power are necessary. There are in the province many points at which hydro-electric power can be developed, as at Goldenville, when the tonnage is sufficient to justify the expenditure.

At Forest Hill the veins are narrow and are mined for the recovery of higher grade ore. Most of the auriferous veins of Nova Scotia are of this type and it seems that many more should be worked than is the case at present.

Mining can be conducted as cheaply in Nova Scotia as in any part of the world. This is particularly the case when the width of the slate belt is favorable and modern methods of overhand stoping, and stope filling, saving timber and handling waste rock, are followed. Generally, the small veins will mean small mines and much development work will be required. In many cases mills have been built too large and too much money spent on the surface. The mines are then hard pushed to keep up with the capacity of the mill and development work is apt to be neglected with the result that the mines run out of ore. This evil is accentuated where, as is generally the case, the pay-ore occurs in shoots. Under such conditions the mine passes from a stage of activity to that of waiting further development.

I wish to emphasize the importance of proper mine surveys and maps. When mining in the neighborhood of old workings filled with water, safety demands that maps be kept and be frequently brought up to date. They are also a great aid in studying the shape and probable position of ore shoots. This is a feature of great importance in our auriferous veins. By their use development work could be intelligently planned and I believe the sinking of so many shafts—always costly work—as are seen on very many properties could have been avoided.

During the past summer much prospecting and testing work have been done. Much of this is unrecorded, since at the time of my inspection work had ceased and it was impossible to get information concerning it. In many mining districts there is much complaint from prospectors and miners that a large proportion of the most favorable ground for prospecting is held apparently for speculation, since little or no work has been done on it. It is of great importance that prospecting should be encouraged, yet it is difficult to frame a law to throw open such areas without doing injustice to owners who have spent much money in their property, but who are at present unable to work them.

In general the physical condition of the mines is good. It should be noted, however, that the regulations regarding the condition of shafts and ladder-ways are not being closely adhered to in some instances, I am aware that these irregularities are receiving special attention from the Mines Department.

During the year, operations were carried on at the following properties:—

Goldenville Mining Co.....	Goldenville .....	Guysborough.
Bendigo Gold Mining Co.....	Forest Hill .....	"
Seal Harbor Mining Co.....	Stormont .....	"
Stormont Gold Mining Co.....	" .....	"
H. G. Bauld.....	" .....	"
Halifax Gold Mining Co.....	Miller Lake .....	"
Caribou Gold Mining Co.....	Caribou .....	Halifax.
Hilchey Mining Co.....	" .....	"
Tuoquoy Gold Mining Co.....	Moose River .....	"
N. McMillan.....	Scraggy Lake .....	"
Dominion Mining Co.....	Tangier .....	"
Moosehead Reduction Co.....	Moosehead .....	"
St. Anthony Gold Mining Co..	Harrigan Cove .....	"
Petpeswick Mining Co.....	Lake Catcha .....	"
Andrew Smith.....	" .....	"
G. Hiseler .....	Head of Chezzetcook..	"
Bradford Mines .....	Sheet Harbor .....	"
Loon Brook Mining Co.....	Montague .....	"
T. J. Crockett.....	" .....	"
S. Hiseler .....	" .....	"
Oldham Mining Co.....	Oldham .....	"
J. Greenough .....	" .....	"
E. Carr .....	" .....	"
J. A. Wheeler.....	Gold River .....	Lunenburg.
A. F. Davison .....	Malaga .....	Queens
Byron Bowers.....	Kemptville .....	Yarmouth.
Great Bras d'Or Gold & Copper Co.....	Wagamatcook .....	Victoria



## GUYSBOROUGH COUNTY.

## GOLDENVILLE DISTRICT.

*Location.*—The Goldenville or Sherbrooke district lies three miles, by road, west of the Town of Sherbrooke, which is on the St. Mary River near the head of navigation. Communication is by daily coach from Sherbrooke, 42 miles to Antigonish, on the Intercolonial Railway, or by weekly steamer to Halifax.

*Structure.*—The Goldenville formation is here folded into an anticline whose axis runs N. 70 degrees west, magnetic, and pitches west at an angle increasing from 0 degrees at the eastern end of the district to 30 degrees at the western end. The fold is unsymmetrical, the strata of the north limb dipping about 45 degrees to the north, while those of the south limb are nearly vertical. The veins or leads are of the interbedded type, lying in belts of slate in the quartzite.

Goldenville Mining Co., Ltd. Manager, R. V. Neily; foreman, S. F. Monck; employees, 25 surface, 25 underground. Production: From 19,093 tons crushed, 2,125 oz. 9 dwts. 16 grs of gold were obtained.

*Surface.*—All machinery is operated by electric plant on Liscomb River, .8 miles from the mine.

This plant has been in operation continuously throughout the year and has given excellent results. The low cost of power is one of the features which enable the company to work low grade ore at a profit.

The mill consists of 40 stamps, 20 of which are in operation, and it is expected that the other 20 will soon be ready. At present about 100 tons of ore per day are being hoisted from the mine. The ore dumps from the skip over a grizzly and the lump ore is washed and sorted. About 20 per cent. to 25 per cent. is discarded as waste and the balance, or 75 to 80 tons per day, is sent to the mill. The coarse ore, after sorting, is crushed in a Blake breaker, joins the undersize of the grizzly and is hoisted on an incline plane in a self-dumping skip to the mill ore-bins.

*Underground.*—During the early part of the year some work was done on the Wellington lead on the north limb of the anticline. On account of lack of pumping facilities at the time this work was stopped in November 1914.



At present operations are being carried on through the main vertical shaft on the Palmerston belt on the south limb of the anticline. This shaft has three compartments, one for ladders and pipe lines, one hoist compartment with self-dumping skip for ore, and the other hoist compartment with a cage for men, supplies and ore. The shaft is 260 feet deep, but has been unwatered only to the 160-foot level. It is the intention to soon complete the unwatering and proceed with development work on the 260-foot level.

On the 160-foot level a cross-cut driven north and south from the shaft cuts the Striker, Sears, Palmerston, Big Smith and other leads. Of these the Striker lead has so far received the most attention and the level on this lead has been continued 480 feet farther east and 250 feet west. Over 400 feet of raises have been driven and a stope opened up for a length of 550 feet on the vein. Both drift and stope are being continued eastward. Most of the ore milled has come from this lead, although a small amount was obtained from a 40-foot raise and small stope on the Big Smith lead.

A total of 215 feet of cross-cut has been driven. This includes 112 feet of cross-cutting south from the Striker lead at a point 350 feet east of main cross-cut. It cuts the Sears and Palmerston leads and on the Sears 150 feet of drift has been driven. Preparations are being made to open stopes on these leads and the cross-cut will be continued to top the Big Smith lead.

The method of mining is to overhand stope, protecting the level by heavy stalls and logging. Hammer drills are used for stoping and the whole belt is mined and hoisted. The belt of the Striker lead is 4 feet wide with two leads aggregating 4 inches of quartz. Where cross-cut the Sears belt is 8 feet wide with 3 to 4 feet of quartz, but will probably average 5 feet wide with 12 inches of quartz. The Palmerston belt shows 18 feet wide with 6 feet of quartz in an old stope 30 feet above and 75 feet east of new cross-cut. At time of inspection this cross-cut had not been driven through the Palmerston belt. The stopes are kept full of ore so that the miners work near the back. The surplus ore broken is drawn off through chutes spaced at intervals of 35 feet. When the block is mined the ore remaining in the stopes will be drawn. No attempt is made to break the quartz clean or separate it from the slate in mining. The plan is to mine and mill the belt working for a large tonnage of low grade ore rather than a small tonnage of high grade clean quartz.

Much pumping is also being done with the object of unwatering the old workings on the south limb of the anticline and north of the Sears belt.

FOREST HILL DISTRICT.

*Location.*—This district is three miles south of the road from Country Harbor Cross Roads to Guysborough and 10 miles from Country Harbor Cross Roads. Communication is by coach 32 miles from the Cross Roads to Antigonish on the Intercolonial Railway, or 15 miles from the Cross Roads to Goldboro and thence by steamer to Halifax.

*Structure.*—The Goldenville formation is folded into an overturned anticline whose axis runs in a northwesterly direction. The veins worked are interstratified in the south limb and dip at high angles. The district is particularly interesting on account of lying so near the granite intrusion, which almost surrounds it, and also on account of gold having been noted in some of the veins in the granite.

BENDIGO GOLD MINING CO., LTD.

Manager, A. G. McNaughton; foreman, J. C. Mason; employees, 20 to 25 underground, 10 to 12 surface; production, from 653 tons crushed 1,229 oz. 8 dwts. 19 grs. of gold were received.

*Surface.*—Work was started last year to re-open this property and much was required to be done to repair the dam for water supply, buildings, get the machinery in running order and pump out the mine.

The mill originally had 20 stamps, but of these only 10 are in use. Power is supplied by boiler plant at the mill, using wood for fuel. This plant also supplies steam for a duplex air compressor of a capacity of 500 cubic feet free air per minute. The compressed air is piped to the working shafts and operates three plugger and 2 stopping drills. Power for hoisting and pumping is supplied by small vertical boilers at the shafts.

*Undreground.*—Two leads are being worked, the Hard and the Salmon River leads. The Hard lead shaft is 130 feet deep on a narrow vein averaging 2 inches to 2½ inches wide, with 6 inches slate, with good ore in the bottom. The outcrop of this lead shows gold for a distance of about 2,000 feet along the lead. Underground it has been followed 200 feet east of the shaft and about 40 per cent. of the ore above the level has been stoped. To the west of the

shaft it has been opened up for a distance of 230 feet and about two-thirds of this block has been stoped.

Work has just been started on the Salmon River lead, which has been traced for a distance of 1,500 feet on the surface. Two shafts, 250 feet apart, have been sunk on this lead to a depth of 160 and 208 feet. The vein averages 3 inches quartz in a slate belt  $4\frac{1}{2}$  feet wide. About half the block of ore between the shafts has been stoped.

Other promising leads which will be worked are the Fraser, Schoolhouse and Ophir leads.

The method of working had been to underhand stope, but this system is being changed to overhand stoping. Some stopes are now being successfully worked overhand and is found to be much more economical than underhand stoping. The method pursued is to first break the hanging wall portion of the belt and this is left in the stope for filling. The vein, with a little slate on the footwall is then shot down and passed through chutes to the level below.

#### STORMONT DISTRICT.

##### *Isaac's Harbor.*

*Location.*—This district is situated on Isaac's Harbor and has the advantage that coal for fuel can be easily brought in by steamer. Communication is by coach, 50 miles to Antigonish, or by steamer to Halifax.

*Structure.*—The gold-bearing formation is here folded into three anticlines, running east and west and containing many interstratified veins. The northern limb has the steepest dip, and it is on this limb that most of the veins have been worked. Several strong faults cut across the anticlines. The principal one runs from the head of the harbor southeast through Dung Cove. Several subsidiary faults have also been encountered.

#### DUNG COVE MINE.

H. G. Bauld, Halifax, owner; G. H. Dimock, superintendent; employees, 3 surface, 7 underground.

*Production.*—No ore has been milled.

*Surface.*—The old Dung Cove, 10 stamp mill, is being repaired and put in running order. The surface plant at the mine consists



of a small building, housing blacksmith shop, 25 H. P. vertical boiler and a 6 x 8 inch derrick hoist.

*Underground.*—The Dung Cove lead is being opened up for testing by a new prospect shaft 42 feet deep. At a depth of 30 feet a drift is run 40 feet west following two leads 5 feet apart. The hanging wall lead shows 5 inches quartz and that on the foot wall 10 inches. A cross-cut has been driven, from shaft, 15 feet in hanging wall and another to the foot wall struck a wide roll at 12 feet.

A small duplex steam pump is used for pumping. Drilling is partly by hand and partly by steam, one drill being used.

#### SEAL HARBOUR MINING COMPANY.

This property is situated 5 miles north of Isaac's Harbour and has been worked under lease in October and November, 1914, and July 1915.

Manager, D. A. McAskill; employees, 7 surface, 8 underground.

*Production.*—From 641 tons crushed 131 oz. 16 dwts. of gold were recovered.

*Surface.*—Surface plant consists of 10 stamp mill with steam power plant. The long haul of coal from Isaac's Harbour makes cost of power high.

*Underground.*—The ore mined was taken from the Big Belt mine, which is a little over 100 feet deep. Ore was stoped above the 100-foot level. The belt is about 20 feet wide and full of stringers and angulars. Of the above width 12 feet was mined and crushed.

#### STORMONT GOLD MINING COMPANY.

The property was in operation only during October, 1914, so that the mine is practically the same as described in last year's report.

*Production.*—Three hundred tons were crushed producing 118 oz. gold.

#### MILLER LAKE DISTRICT.

*Location.*—Five miles by road north of Ecum Secum bridge, on the coast post road from Halifax. Communication is by coach to Halifax or by coach to Sheet Harbour and steamer to Halifax.

*Structure.*—The strata are folded to form a dome with main axis pitching east and west. The strata on the north limb dip at angles of 45 degrees to 58 degrees and those of the south limb at angles up to 75 degrees. The veins are of the interstratified type.

#### HALIFAX GOLD MINING COMPANY.

Manager, T. W. Fancy; foreman, C. H. Drillio; employees, 4 to 12.

*Production.*—From 18 tons crushed 8 oz. 19 dwts. of gold were recovered.

*Surface.*—On the property is a 10 stamp mill with steam power plant. The mine is equipped with a 15 H. P. boiler, friction hoist, 5 inch jackhead pump and steam drill. The property is 3 miles from Liscomb River on which, it is said, electrical power could be cheaply developed.

*Underground.*—Mining was started on the first of August and the shaft was sunk 20 feet farther, making a total of 53 feet. From a depth of 25 feet the vein is stoped 50 feet east and 35 feet west from the shaft. The vein strikes east and west, dipping north 58 degrees and averages 9 inches wide.

A test pit is being sunk 110 feet west of the shaft to pick up the extension of the lead to the west.

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#### HALIFAX COUNTY.

##### CARIBOU DISTRICT.

*Location.*—The district is situated seven miles south of Upper Musquodoboit on the line of the Halifax and Eastern Railway. At present communication is by coach 32 miles to Shubenacadie, but it is expected that the railroad will soon be in operation from Upper Musquodoboit.

*Structure.*—The structure is that of an elongated dome with axis running approximately east and west and strata dipping north and south. The Goldenville (quartzite) formation is exposed in the central portion of the district and is surrounded by the Halifax (slate) formation. The veins are both of interstratified type, but a few fissure veins are found crossing the formation at a small angle. A few faults of small displacement are found.



## CARIBOU GOLD MINING COMPANY.

Manager, H. Dixon; foreman, G. H. Lawlor; employees, 6 surface, 12 underground.

*Production.*—From 322 tons of ore crushed 293 oz. 18 dwts. of gold were recovered.

This company has closed down the Holman mine and confined their operations to the Dixon mine.

*Surface.*—All equipment is housed under one building at the main shaft on the Dixon lead. It consists of blacksmith shop, 35 H. P. boiler, 5 in. by 5 in. hoist and engine driving ten 750-pound stamps.

*Underground.*—Work underground has been confined to the Dixon fissure vein which strikes approximately northeast and dips south at an angle of 76 degrees. In the early part of the year the east shaft was worked. This shaft, which is about 200 feet east of main shaft, is 320 feet deep, with levels at 60, 140, 200 and 275 feet. Drifting and stoping was carried east of the shaft. The 60-foot level was driven 200 feet east, making it a total of about 320 feet long; the 140-foot level was driven east 100 feet, making 275 feet from face to shaft; and the 200-foot level was extended 50 feet to a total length of 275 feet. A few small blocks of ore have been left between the levels east of the shaft, but most of the ore has been stoped.

The main shaft is 357 feet deep and has been unwatered only as far as the 150 feet level. Practically all the ground above this level between the two shafts has been stoped. The ore shoots appear to be formed at the intersection of the fissure with the slate belts and pitch west at a low angle. At present stoping is following these shoots west from main shaft from levels at 60 and 150 feet. The 60-foot level is in 175 feet west of shaft and of this 50 feet has been driven during the year. The corresponding figures for the 150-foot level are 80 and 30 feet respectively. Most of the ore between the levels has been stoped.

The method of mining is underhand stoping, the ore being broken down in benches from the level above. The waste is thrown back on "scaffolds" and left in the stope. The vein consists of 2 to 3 inches of quartz, with 6 inches of "hulk" or selvage on hanging wall side. This is mined first and afterwards the hanging wall is shot down to bring the stope to a working width.

## HILCHEY MINING COMPANY.

Manager, E. F. Munro; foreman, H. Hall; employees, 3 surface, 5 underground.

*Production.*—No ore was crushed during the year.

*Surface.*—The plant at the mine consists of small head frame and building. A 25 H. P. boiler supplies steam for a 5 in. by 7 in. geared hoist and a small duplex pump underground. The mill, which has just been completed, consists of 10 stamps and 1 wilfly table run by a 10 H. P. kerosene engine. It is situated 800 feet south of shaft and connected to it by a low trestle over which ore cars are run.

*Underground.*—Last year six or seven leads were discovered east of the Holman mine and near the anticlinal axis. On area 319, block 2, about 125 feet north of axis of anticline a shaft has been sunk on one of these veins, the Hilchey lead. The shaft is 80 feet deep with levels driven 50 feet east and 30 feet west at a depth of 60 feet. From this level back stopes are being opened. The vein dips north at about 45 degrees and is 4 to 5 inches wide. At 50 feet depth an angular from the hanging wall splits the vein, which continues in two sections each two to three inches wide and 4½ to 5 feet apart. The richest ore is found where these angulars cut the vein, the shoots so formed being almost horizontal.

Other work consists of test pits on two leads, 3 and 7 inches wide, 100 feet north of shaft and on two leads, on area 282, in south limb of anticline.

## MOOSE RIVER DISTRICT.

*Location.*—Seven miles southwest of Caribou Mines and 13 miles from Middle Musquodoboit. Communication is by coach 34 miles to Shubenacadie on Intercolonial Railway or by Halifax and Eastern Railway from Middle Musquodoboit.

*Structure.*—The convergence of the Fifteen-mile Stream and Beaver Dam anticlines causes a complicated double fold with a general east and west course. Several faults cut the strata in a general north and south course, but in addition to these there are many minor faults. Enclosed in the quartzite are wide belts of slate in which lie most of the veins.

## TUOQUOY GOLD MINING COMPANY.

Manager, R. Kaulbach.

*Production.*—Two hundred and seventy-six tons gave 64 oz. 18 dwts. gold.

This mine is at present shut down. Last fall the upper mine workings were unwatered and some small blocks of ore were stoped near the surface.

## SCRAGGY LAKE.

At Scraggy Lake, about 5 miles southeast of Moose River, N. McMillan has done a considerable amount of work prospecting and sinking test pits. Three pits have been sunk and five leads, varying from 6 inches to 20 inches in width, were discovered, as well as two rolls from 3 feet to 4 feet wide. The quartz carries considerable mispickel and shows of gold. No ore has been crushed.

## TANGIER DISTRICT.

*Location.*—On Atlantic coast at mouth of Tangier River. Communication is by daily coach 60 miles to Halifax; or by coach 25 miles to Musquodoboit Harbour and Halifax and Eastern Railway to Halifax.

*Structure.*—A long, narrow dome on the Tangier-Harrigan Cove anticline. The general trend of the dome is east and west, pitching slightly in both directions and cut by many transverse faults. Both limbs of the dome dip at high angles, but most of the veins worked lie in the south limb.

## DOMINION MINING COMPANY.

Manager, W. J. Prisk; foreman, W. E. Prisk.

*Production.*—From 1967 tons crushed 472 oz. 9 dwts. 19 grs. of gold were recovered; valued at \$8,841.68.

The mine was operated for four months during the early part of the year and was shut down in May 1915.

*Surface.*—The mine has a completely equipped stamp mill and power is obtained from the company's hydro-electric plant in Tangier River. No new equipment has been installed.

*Underground.*—The east drift on the 500-foot level was advanced 80 feet. The ore produced came from 4,076 square feet of stoping on 500-foot level east, and 3,540 square feet from 600-foot level east.

MOOSEHEAD, SHIER'S POINT.

*Location.*—On coast about 98 miles northeast of Halifax. Communication is by daily coach to Halifax.

*Structure.*—On the Tangier-Harrigan Cove anticline. The veins are of the interstratified type and dip south at 45 degrees.

MOOSEHEAD REDUCTION COMPANY.

Manager, J. Paul Norrie.

*Production.*—From 251 tons crushed 26 oz. 4 dwts. 12 grs. gold were recovered.

*Surface.*—The surface plant consists of small boiler, hoist and air compressor. The mill has 20 stamps, 10 of which are run by water power. No additions to the plant were made during the year.

*Underground.*—Underground work was confined to the Camp Cove lead. The shaft was sunk from the 50-foot level to a depth of 93 feet. The west drift on 46-foot level was driven 22 feet, making a total length of 79 feet and the east drift 2 feet, making it 38 feet long. Fifty-six feet from the shaft on the west drift across cut was driven south 16 feet and north 3 feet along a fault.

At intervals of 10 to 20 feet angulars cut the vein forming small ore shoots pitching west at angles of 20 degrees.

HARRIGAN COVE DISTRICT.

*Location.*—On the Atlantic coast about 95 miles east from Halifax.

*Structure.*—On the Tangier-Harrigan Cove anticline. The veins are interstratified and lie in the south limb, which has the steeper dip. Where the fold pitches west, saddle veins are found on the apex.

ST. ANTHONY GOLD MINING COMPANY.

This property was worked during the month of July. Seventeen tons of ore were crushed producing 8 oz. 11 dwts. gold.



## SHEET HARBOUR DISTRICT.

*Location.*—At the head of Sheet Harbour. Communication by coach or by steamer to Halifax.

*Structure.*—A subordinate fold of south limb of Salmon River anticline.

## BRADFORD MINES, LIMITED.

Manager, E. F. Heffler; foreman, R. Chittick; employees, 7 surface, 8 underground.

*Surface.*—Surface plant consists of a blacksmith shop, store house, and head frame building containing 50 H. P. boiler, 5 in. by 7 in. geared hoist and a 300-foot Rand straight line compressor.

*Underground.*—The shaft is on area 105, near the axis of the fold. It is a vertical shaft, 13 ft. by 6 ft. 9 in., 102 feet deep with cross-cuts started at the 100-foot level. These cross-cuts are to be driven north and south to cut veins found at the surface and which gave very rich float.

## LAKE CATCHA DISTRICT.

*Location.*—Near the Atlantic coast, 32 miles northeast of Halifax. Communication is by coach to Halifax or by Halifax and Eastern Railway from East Chezzetcook, 4 miles from Lake Catcha.

*Structure.*—An elongated dome running north 74 degrees east and pitching east and west. The veins are found on the north limb of the dome, where the strata dip north at an angle of 80 degree. The district has suffered much from faulting. The veins have been located beyond most of the transverse faults, but one flat fault has cut several promising leads at shallow depths and below it they have not been found.

## PETPESWICK MINING COMPANY.

Manager, F. G. Stevens; foreman, W. S. Crook; employees, average 10.

*Production.*—Forty-four tons crushed produced 101 oz. 10 dwts. 7 grs. of gold.

*Surface.*—Part of the plant at the Coleman shaft was moved to area 140 and the necessary buildings erected. The plant used here



consists of a 40 H. P. boiler, an 8 in. by 12 in. hoist, 6 in. by 4 in. by 6 in. duplex pump and one Rand steam drill.

*Underground.*—During the early part of the year a vertical shaft, 92 feet deep, was sunk on area 140, block 2, and a cross-cut from it driven 159 feet southeast under the Water Hole at the west end of the Lake Catcha anticline. The purpose of this cross-cut was to prospect the veins near the bend of the anticline with the idea of following any promising leads discovered. The ground here was found to be very much broken by numerous faults. Ten cross veins, varying from one inch to four feet of quartz, were cut. The assays from the veins were very low and the company stopped work.

Later in the year two tributers started work. W. S. Crook started sinking on the Picayune lead on area 116. The vein here is from 1 to 1½ inches wide, but where developed by a cross-cut from the Coleman shaft on the 360-foot level it is back stoped for 60 feet and shows up to 8 inches of quartz. If the results in this shaft should prove satisfactory there would be a promising block of ground here, with the vein proved to a depth of 300 feet.

C. Pettipas is working on the mill lead on area 193. He has re-opened an old shaft 50 feet deep and is underhand stoping east of the shaft at a depth of 40 feet. The vein now shows one inch wide, but varies through the workings up to 3 or 4 inches.

Both tributers are doing hand drilling and using a horse whim for hoisting.

*Other work.*—Andrew Smith sank a test shaft 30 feet deep on the Cogswell angular on area 204. The results obtained are not known.

#### MONTAGU DISTRICT.

*Location.*—This district is situated 5 miles, by good wagon road, northeast of Dartmouth, across the harbour from Halifax.

*Structure.*—The Goldenville formation is exposed in a long, narrow dome whose axis runs a little north of east and pitches at low angles to east and west. The strata on south limb dip at high angles and it is on this limb that the veins, which lie in narrow slate belts, have been worked. Several faults cut across the formation and other strike faults of low dip cut the veins at moderate depths. Practically no work has been done on the leads below these flat faults.

## LOON BROOK GOLD MINING COMPANY.

Manager, E. Romilly Smith; foreman, W. McQuarrie; employees, 6 surface, 8 underground.

*Production.*—From 61 tons crushed 135 oz. 10 dwts. were recovered.

*Surface.*—The mill consists of ten 850-pound stamps, 2 wilfly tables and grinding pan. Power for operating is obtained from steam power plant.

At the mine two Jack-head pumps are used for handling the water and a geared hoist and bucket for hoisting ore. An 80 H. P. boiler and 600-foot Rand duplex compressor have been installed during the year. Two piston drills are used.

*Underground.*—On area 1,343 an old shaft, situated 41 feet south of a shaft on the Skerry lead, was sunk from a depth of 102 feet to a depth of about 180 feet. In the shaft on Skerry lead a fault with low dip to the south cut the vein at a depth of 65 feet. In the shaft now working this fault was cut at a depth of 108 feet and the Skerry lead was found below the fault. At a depth of 120 feet a level was driven 80 feet east. Below this level the shaft was lengthened 18 feet east and 22 feet west and carried down as an underhand stope approximately 50 feet long.

The lead averages 4 inches wide in a belt of slate 2 feet wide. It carries good gold, shows, but enriched portions or shoots are found when angulars come in from the hanging wall. These shoots lie almost flat. At intervals in these shoots pockets of extremely rich ore are found.

The Skerry lead had not previously been worked below the fault, although above the fault it had been worked for a length of over half a mile. On account of the encouraging results so far obtained work is to be carried on energetically to develop the ground below the fault.

*Other work.*—T. J. Crockett did some prospecting work and sank a small test pit on his areas east of the Loon Brook property.

S. Hiseler did a little prospect work on the British America property.

## OLDHAM DISTRICT.

*Location.*—Three miles east of Enfield station on the Intercolonial Railway.

*Structure.*—This district is on a symmetrical anticline plunging to the east. Nearly all the veins are of the interbedded type and are found in both limbs of the anticline. Many faults are met, particularly in the southeastern part of the district. The richer ore shoots occur in the rolls in the vein and the faulting has made it difficult to follow them.

## OLDHAM MINING COMPANY.

Manager, G. J. Partington; foreman, J. H. Whidden; employees, 5 surface, 10 underground.

*Production.*—From 321 tons crushed 562 oz. 14 dwts. of gold were recovered.

*Surface.*—The company is working the Hardman shaft on the Dunbrack lead with the plant moved there by M. J. O'Brien and described in last year's report. Coal is used for fuel and is hauled by waggon from Enfield. Ore is crushed in the Stirling mill, which is run by water power.

*Underground.*—Work underground has been done with the purpose of finding the extension of the Hardman roll beyond the area of faulted ground 300 to 325 feet east of the shaft on the 430-foot level. At a point about 475 feet east of the shaft a winze has been sunk to a depth of 150 feet on the vein. Fifty feet east of this a roll 40 feet long, on the level, and pitching 35 degrees east was discovered. It is thought that this is the extension of the Ned McDonald roll and not the Hardman roll. A winze pitching on the vein has been sunk under this roll and the roll above it stoped. The ground between this winze and the one first mentioned has been stoped to a depth of 50 feet.

*Other work.*—Edward Carr did some prospecting work during the summer on an angular about a quarter of a mile south of the Hardman shaft.

John Greenough worked during the summer on the Big Five property.

## LUNENBURG COUNTY.

## GOLD RIVER DISTRICT.

*Location.*—The Gold River district is situated on Gold River, one mile west of Chester Basin on the Halifax and Southwestern Railway.

*Structure.*—The Goldenville formation is exposed in a relatively small area almost surrounded by granite and is folded into an elongated dome whose axis runs northeast. Most of the veins, which are of the interstratified type, are found in the south limb where the dip is very steep. A few veins are found in the north limb dipping at angles of 45 degrees. The district has been much disturbed and faulted.

## NORTH STAR MINE.

This mine was worked under tribute for three months by J. A. Wheeler. It is now shut down. Employees, 3 men.

*Production.*—From 40 tons crushed 66 oz. 19 dwts. of gold were recovered.

*Surface.*—The plant consists of 60 H. P. boiler, 5 in. by 7 in. geared hoist, Blake crusher and prospector's 3 stamp mill.

*Underground.*—The shaft follows the dip of the lead, almost 45 degrees. At a depth 66 feet and incline follows a rich roll pitching west at an angle of about 10 degrees. At a distance of 200 feet along this incline from the shaft, the vein is cut by a fault, but is picked up again in 36 feet. The work done this year consists of drifting 20 feet ahead from this point and stoping the roll above the drift.

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## QUEENS COUNTY.

## MALAGA DISTRICT.

*Location.*—This district is situated between Malaga and Ponhook lakes and is 5 miles south of South Brookfield station on the Halifax and Southwestern Railway.

*Structure.*—The Goldenville formation is exposed in an anticline whose axis runs northeast and pitches east and west at low angles. The veins are interstratified in belts of slate lying between



walls of quartzite. Most of the veins worked lie in the north limb, which dips at angles of 70 to 80 degree. The veins in the south limb dip at angles of 45 degrees to 50 degrees. Very few faults are found in the district.

#### PONHOOK MINE.

This mine was worked under leave from the owner, A. F. Davison, by E. S. Henley. The mine was shut down on August 1st and is at present under option to Toronto and Rochester capital.

*Employees.*—3 surface, 5 underground.

*Production.*—One hundred and two tons crushed gave 116 oz. 16 dwts. gold.

*Surface.*—The surface plant and mill is complete and in good condition. The mill consists of Blake crusher, 20 stamps, of which only 10 are ready to run, amalgamating plates and clean-up barrel. The mill machinery is run by a Corliss engine. In the mill building is a 350-foot single stage air compressor, from which air is piped to the different shafts. Steam is supplied by two 100 H. P. boilers. At the South Rabbit shaft the plant consists of a 15 H. P. boiler and a 5 in. by 7 in. geared hoist.

*Underground.*—The principal veins which have been worked are the North Rabbit, Middle Rabbit, South Rabbit, Slate, Blue and New Years. These have been cross-cut from the main shaft on the Middle Rabbit. The recent work was done from the main shaft of the South Rabbit lead. This shaft is 210 feet deep and at 200 feet levels were started and driven 110 feet east and 50 feet west. A small block of ore was stoped on the east side of shaft.

The South Rabbit lead dips north 75 degrees to 80 degrees and is said to average 12 inches wide in a slate belt 3 feet wide. It is said that the vein averages good mill ore with richer shoots pitching west where angulars come in from the foot wall.

Prospecting work discovered a new vein, called Boathouse lead, near the shore of Ponhook Lake. The pit is now filled with water, but this vein is said to give one foot of quartz with good shows of gold, in a belt of slate 3 feet wide.



## YARMOUTH COUNTY.

## KEMPTVILLE DISTRICT.

*Location.*—The district is situated about a half mile from the village of Kemptville, 13 miles from Brazil Lake station on the Dominion Atlantic Railway.

*Structure.*—This district has not been studied as have the other gold districts of the province. The strata consist of impure quartzites and strike approximately northeast.

## COWAN MINE.

This property is operated by the Northrup Gold Mining Company, under option from the owner, Byron Bowers.

Manager, S. C. Northrup; foreman, Byron Bowers; employees, 6 to 8.

*Production.*—Three and a half tons crushed gave 2 oz. 15 dwts. gold.

*Surface.*—The plant consists of an old style 15 stamp mill, boilers, engine and small air compressor. This plant is not in use. The plant at present in operation consists of a 15 H. P. vertical boiler, 4 in. by 6 in. duplex pump and a 2-stamp Tremain steam stamp mill.

*Underground.*—The Cowan lead is being re-opened in area 129, block 2. This vein is from 2 to 5 inches wide and cuts the strata at a small angle in both strike and dip. Near the surface it dips northwest at an angle of about 60 degrees at the surface. The shaft is 160 feet deep and has been pumped out to a depth of 70 to 80 feet. Pumping is being continued. Levels were driven at 90 and 150 feet with cross-cut north and south from the 150-foot level. Most of the ore has been stoped from the 90 foot level to near the surface for a distance of 60 to 70 feet on both sides of the shaft. A small stope is now being worked from the 60-foot level, 45 feet east of shaft.

*Other work.*—E. F. Walton dug a prospect trench on the Rozee areas on the shore of Crowley Lake. On account of inflow of water from the lake this pit, which is 45 by 7 feet and approximately 15 feet deep, had to be protected by sheet piling. It is said that a three-foot lead running under the lake was cut.

## VICTORIA COUNTY.

## WAGAMATKOO DISTRICT.

*Location.*—On Wagamatcook or Middle River, 25 miles from Baddeck.

*Structure.*—The district lies in the metamorphosed pre-Cambrian schists of Cape Breton. The schists are mostly chloritic and sericitic, with the foliation parallel to the bedding planes. The veins consist of quartz with mispickel, copper pyrites and galena.

## GREAT BRAS D'OR GOLD AND COPPER COMPANY.

Manager, D. J. Patrequin.

*Production.*—From 274 tons crushed 41 oz. 14 dwts. 19 grs. of gold were recovered.

This mine was in operation for several months during the early part of the year, but is now closed down.

## ANTIMONY.

## WEST GORE DISTRICT.

*Location.*—The district is situated three miles, by good road, southeast of Clarksville station on the Midland division of the Dominion Atlantic Railway.

*Structure.*—The veins occur in fault planes in the slate, or Halifax, formation of the gold-bearing series. The rocks found are light grey slates, somewhat telcose, with some beds of black graphic slates. The strata strike northeast and dip southeast at 45 degrees and are cut nearly at right angles by the fissures, which dip southwest at angles from 80 degrees to 85 degrees. The ore consists of stibnite, a little native antimony and mispickel in a gangue of quartz, with crushed slate and a little calcite.

## WEST GORE ANTIMONY COMPANY.

After being idle for a number of years, work was started on October 1st, 1914, to re-open this property. The mine was pumped out, surface plant and mill overhauled and new machinery installed. Milling was started early in January, 1915.

Manager, N. O. Carpenter; assistant manager, D. MacLeod; foreman, Logan Ball; employees, 40 to 50.

*Production.*—From 10,782 tons of ore mined 783 tons of antimony concentrates were made, containing 1,698 ozs. 5 dwts. of gold.

*Surface.*—The plant at the mine consists of a 150 H. P. Babcock and Wilcox, a 75 H. P. Matheson and a 200 H. P. Barrow combination boiler. The last two of these have been installed during the year. There are two air compressors, a 450 cubic feet Rand, held in reserve, and a new 1,050 cubic feet Blaisdell compressor. A new 10 in. by 12 in. Lidgerwood geared hoist has been installed. A small portable saw mill has been installed and found very useful.

The mill is run day shift only and has a capacity of approximately 50 tons per shift. The ore is dumped over a grizzly and high grade lump ore picked from the oversize. The ore then passes through a Blake crusher, set  $1\frac{1}{2}$  inch, to the mill ore bin, where it joins the undersize of the grizzly. It is then hoisted by bucket elevator to a set of trommels with  $\frac{5}{8}$  in.,  $\frac{3}{8}$  in.,  $\frac{1}{8}$  in. and 20 mesh screens. The oversize of the  $\frac{5}{8}$  inch trommel goes to a picking belt where high grade ore is picked out. The rejects go through a Dodge breaker to elevator and into the mill circuit. The undersize of the 20 mesh trommel goes to the classifiers and the other trommel products to coarse, medium, and fine jigs. The lastings from coarse jigs go through rolls back to elevator and into mill circuit. The tailings from the other jigs are reground in a Huntington mill and with the undersize of the 20 mesh trommel go to a five spigot hydraulic classifier. The product of each spigot of the classifier goes to a wilfly table and the overflow to a spitzkasten, which feeds from vanners and 1 Ludwig table. The products shipped from the mill are lump ore, jig concentrate, table concentrate, and vanner concentrate.

*Underground.*—The mine is entered by No. 1 shaft, which is vertical for 200 feet. From the bottom of this shaft a cross-cut is driven to the vein, and the shaft continued as an incline in the vein. The vertical inclined sections are connected by a curve between the first and second levels. The shaft is sunk as far as the 6th level, approximately 600 feet. On the 6th level, just east of the shaft, a winze is sunk to the 7th level, and on the 5th level a winze, 265 feet east of shaft, is sunk to the 6th, 7th and 8th levels. Development work for the year consists in sinking the shaft from the fifth to sixth levels and driving the sixth level 265 feet west from shaft.



A small amount of stoping has been done on the second, third and fourth levels. On the sixth level a large block, approximately 200 feet long, east of the shaft, has been stoped up to the fifth level. On the seventh level a stope is being carried up under the shaft.

The ore is overhand stoped from the level, protecting the level with heavy stulls and logging. The ore is sorted underground and waste left in to fill the stopes. Where the vein is wide waste rock is run into the stopes so that they are kept full. Manways and ore chutes, each 3 feet square, are cribbed up with 3 inch plank at intervals of 30 feet.

The ore shoot pitches east at an angle of 50 degrees and good ore is found in the bottom level.

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## BARYTES.

### BARYTES LIMITED.

Manager, H. H. Harrison; mine superintendent, John P. Misservey; mill superintendent, Thos F. Harrison; employees, average, 12 surface, 8 underground.

*Production.*—750 net tons of ground barytes, marketed in two grades. This was obtained from 750 gross tons of mine ore.

*Surface.*—The mill is situated on the east shore of Lake Ainslie, near Scotsville. A new rotary dryer was installed during the year.

The ground barytes is shipped by small steamer, owned by the company, 8 miles across the lake to Strathlorne and thence by the Inverness Railway.

*Underground.*—The Campbell mine is the only one worked during the year. It is situated three quarters of a mile east of the mill and ore is hauled from the mine to the mill by wagon. The shaft is 100 feet deep with a level driven along the vein at 80 feet. The east drift is 65 feet long, of which 40 feet was driven during the year. The west drift is 45 feet long and of this 20 feet was driven during the year. The average width of ore stoped is 10 feet.

Two hundred feet east of this shaft a pit 20 feet deep has been sunk on the vein.



The East Lake mine has not been operated during the year. Considerable prospecting has been done over a distance of 3 miles on the east side of the lake.

The company has done considerable work investigating and working out processes for the manufacture of barium salts and hope to be able to start this industry.

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### LEAD AND ZINC.

No lead or zinc mines are working. In the early summer the Cheticamp Gold Mining Company pumped out their mine on Fari-bault Creek, Cheticamp River, Inverness County, and took out about 10 tons of ore for testing. Messrs. H. H. and H. R. Harrison have done some prospecting for lead and zinc and have recently pumped out, for examination, an old prospect south of Boisdale, Cape Breton County.

### OTHER METALS.

No work has been done on the iron, tungsten or manganese mines of the province during the past year. However, arrangements are being completed to re-open the manganese mine at New Ross, Lunenburg County.

## QUARRIES.

R. D. ANDERSON, *Deputy Inspector*, reports the following of the quarries operated in Nova Scotia in the fiscal year ended September 30th, 1915.

The quarries are in good condition and the law regulating them is very well observed.

The output for the year is as follows:

Gypsum .....	233,216 tons
Limestone .....	353,412 "
Building stone .....	39,654 "
Grindstone .....	235 "

There were about 850 men employed, not regularly.

Two accidents were reported during the year, both of which occurred at the Dominion Steel Co.'s quarries at Marble Mountain. On May 3rd, Selby Sparks, age 18, had his skull fractured by a stone rolling from the face; and Daniel McLeod, had his leg crushed so badly by a stone falling from the face, on June 3rd, that amputation was necessary.

Two quarries were opened, one, a gypsum quarry, by Captain Patterson of Cheverie, at Kempt Shore, Hants County, and one, a stone quarry, on Merigomish road, about three miles from New Glasgow, by Alexander J. Smith.

About 5,000 tons of finished plaster were produced during the year.

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### GEORGE'S RIVER QUARRY, DOLOMITE; SCOTCH LAKE, CAPE BRETON COUNTY.

This quarry, which ceased operations in August, 1914, began again November 1st. The average output was about 1,700 tons a fortnight. The quarry is owned by the Dominion Steel Co., and is leased and operated by Messrs. Nairn & Campbell.

The average force is about 30 men.

The output is used as fluxes at the furnaces of the Dominion Steel Co. ,at Sydney, and some is shipped to the Nova Scotia Steel & Coal Co.'s furnaces at Sydney Mines. The demand is strong and no product is kept in stock. The plant is in good condition. The trestle over the ravine at the quarry is in need of repairs. Work is carried on all of the year. The output in the fiscal year was 22,531 tons.

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POINT EDWARD QUARRY, LIMESTONE; POINT EDWARD,  
CAPE BRETON COUNTY.

This quarry is owned and operated by the Nova Scotia Steel & Coal Co. The product is used as fluxes at the furnaces of the company at Sydney Mines; except the screenings which are shipped to North Sydney for street purposes. The labor is largely performed by men from Newfoundland. The quarry is in good condition. About 85 men were employed during the year and the daily output is about 400 tons. The boilers were inspected during the year and the plant is in good condition. The year's production was 53,378 tons.

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VICTORIA GYPSUM CO.'S QUARRIES, GYPSUM; ST. ANN'S,  
VICTORIA COUNTY.

Business is prosperous at this quarry; 125 men were employed regularly. A new warehouse and other small buildings were erected at the quarry, and a dwelling house built for the manager. The quarries are in good condition and worked economically.

The railway from the quarry to the pier at Munroe's Point, three and a half miles, has been laid with 60-lb. rails. The pier is in good condition. This company is now prepared to do an increased business, and purposes to erect a calcining plant at their pier during 1916.

The production for the year was 32,157 tons.

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DOMINION IRON & STEEL CO.'S QUARRY, LIMESTONE; MARBLE  
MOUNTAIN, INVERNESS COUNTY.

This is the largest quarry in the Province and employed last year an average of 450 men. Labor was scarce during July, but at the end of September the force was up to the requirements. All the product, except about 10 per cent., which is lost in screening, goes to the Dominion Steel Co.'s furnace at Sydney.

The quarry was idle from September, 1914, to April, 1915. The plant and quarry are in good condition.

A new incline trestle, 350 feet long, was erected to carry the rock, for the open-hearth furnaces, from the quarry to the bin, without going through the crusher.

The production in the year was 277,503 tons.

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IONA GYPSUM CO.'S QUARRY, GYPSUM; GRASS COVE,  
VICTORIA COUNTY.

This quarry has been in operation for two years. The gypsum is calcined at the quarry. The finished product is 70 tons a day of 12 days. The demand for plaster was strong. There were 20 men employed and the output of gypsum for the year was 2,579 tons. There was a shipment to Australia of 1,000 tons finished plaster; the remainder was shipped to Halifax and Montreal.

The quarry and plant are in good condition.

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NEWARK GYPSUM CO.'S QUARRY, GYPSUM; OTTAWA BROOK,  
INVERNESS COUNTY.

This quarry shipped 400 tons only during the year. About 20 men and a steam shovel have been employed building a railroad about two and a half miles from the old quarry abandoned a year ago, to a new deposit farther west. The new quarry promises to be a good producer, and will be in operation in the spring of 1916.



SMITH'S QUARRY, FREE STONE; NEW GLASGOW AND MERIGOMISH  
ROAD, PICTOU COUNTY.

This quarry was opened by Alexander J. Smith, of New Glasgow, in December 1914. The production is used in building the new docks at Trenton and the smaller stone is crushed for street building in New Glasgow. The property consists of four acres. There is a good water supply at the quarry; and a small crushing plant has been erected. About 10 men are regularly employed and the product last year was 2,500 tons.

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SUTHERLAND'S QUARRY, WEST MERIGOMISH, PICTOU COUNTY.

This quarry, which has been closed for the last two years, produced this year 15 tons only.

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MICMAC QUARRY, GRINDSTONE; WOODBURN, PICTOU COUNTY.  
(Owned by the Mohawk Grindstone Co.)

This quarry produced 220 tons of grindstone within the year. There were 10 men employed. A storm, accompanied by very high tides flooded the quarry, which is very near the shore of Merigomish Harbor, and hindered operations for some weeks. The demand was strong during the year. There were 60 tons of finished stones on hand September 1st, which would be shipped before the end of the year.

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SMITH'S QUARRY, PINK SAND STONE; AMHERST,  
CUMBERLAND COUNTY.

This quarry was formerly known as Curran's quarry. No work was done last year until the middle of the summer, and 600 tons were shipped during the remainder of the year. A large order was being filled at the end of the year for the new City Hall at Moncton, N. B. There are 11 men employed. The manager, Mr. Smith, purposes to erect stone planers during the coming winter, as the demand for the stone is growing.

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WALLACE SAND STONE QUARRIES, SAND STONE; WALLACE,  
CUMBERLAND COUNTY.

This quarry worked 9 months during the year and produced 36,029 tons, more than twice the production for 1914. No new machinery has been added to the large and well equipped plant. About 50 men were employed. This is one of the best quarries in Eastern Canada.

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AVONDALE QUARRY, GYPSUM; AVONDALE, HANTS COUNTY.

This quarry is about three miles from Avondale, where the product is shipped. One locomotive now does the work of two a year ago. The production was 31,461 tons, with an average force of 50 men.

An aerial cable, 300 feet between towers, will be erected during the coming year.

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WENTWORTH GYPSUM CO.'S QUARRIES, GYPSUM; WENTWORTH,  
HANTS COUNTY.

This company produced last year from three quarries 119,819 tons and employed an average of 138 men.

A new cable has been placed at the Fraser Quarry, the same capacity as the one erected the year before. These cables have a lift each of three and a half tons. The engines are 10 by 15 inches, 75 h. p., and the plant is in good condition. The output is shipped in its crude state.

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PATTERSON'S QUARRY, GYPSUM; KEMPT SHORE, HANTS COUNTY.

This quarry was opened in May 1915. There were 12 men and 5 horses employed during the year. The quarry is one and a half miles from the shipping pier on the shore of Minas Basin. The product was 2,500 tons. The water supply at the quarry is not good. There is a corduroyed road with plank wheel-ways for carts from the pier to the quarry. The plaster is of the best quality and work will be continued during the winter.

## WALTON QUARRIES, GYPSUM; WALTON, HANTS COUNTY.

There are two quarries operated on this property, which produced last year 17,800 tons. The output is shipped at Walton by a railway three-quarters of a mile to the pier. An average of 60 men was employed.

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## CHEVERIE QUARRIES, GYPSUM; CHEVERIE, HANTS COUNTY.

One of the two quarries at Cheverie ceased operations last year as further work would have injured the highway. The shore quarry is in operation; the production, 18,000 tons, is good considering the difficulties attending the operating. 40 men were employed during the year.

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## HOYT'S QUARRY, GRANITE; NICTAUX WEST, ANNAPOLIS COUNTY.

This quarry produced 225 tons granite and employed 6 men. Operations ceased in September. The production was shipped to Middleton, where it is manufactured into monuments at the C. W. Hoyt's granite works.

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## RICE'S QUARRY, GRANITE; NICTAUX WEST, ANNAPOLIS COUNTY.

This quarry produced last year 300 tons of granite and employed 3 men. The greater part of the output is shipped to Bear River and is used at the making of monuments at Thelbert Rice's granite works. Some of the product is finished at the quarry.

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ROBERT D. ANDERSON, *Deputy Inspector*, reports the following of the operation of government core-drills during the fiscal year ended September 30th, 1915.

The total distance bored was 788 feet, 9 inches, by No. 1 Diamond Drill, which was the only government drill operated during the year.

The expenditure of the department for wages, upkeep of machines and general account was \$2078.08, distributed as follows:

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Drill No. 1 .....	\$ 5.50
Drill No. 2 .....	35.00
Drill No. 5 .....	13.05
Drill No. 6 .....	12.00
Wages and general Acct., supplies, etc.	2012.53
	<hr/>
	\$2078.08

Included in the expenditure are \$186.50 for test-hole, Acadia Coal Co.

The cost per foot for boring was \$1.77, and the average carbon cost a foot was 8.9 cents.

The following table shows the strata bored and the cost of the hole:



## DIAMOND DRILL No. 1.

Borehole No. 1, at Thorburn, in No. 4 level, west side, 567 feet from main slope of Vale seam. Boring done for the Acadia Coal Co.

Drill running double shift. Commenced hole December 17, 1914, finished hole January 27, 1915.

Rock Bored	Thickness Bored		Total Depth	
	Ft.	In.	Ft.	In.
Fire clay .....	3	3	...	..
Grey sandstone .....	1	9	5	..
Grey sandstone .....	2	5	7	5
Grey shale and ironstone bands.....	24	11	32	4
Grey sandstone .....	11	2	43	6
Grey sandstone .....	5	4	48	10
Grey shale .....	3	2	51	8
Grey sandstone .....	7	6	59	2
Grey shale, band of ironstone.....	10	4	69	6
Coal .....	..	10	70	4
Grey shale .....	4	2	74	6
Grey shale with bands of sandstone..	30	9	105	3
Grey shale sandy .....	23	9	129	..
Black shale .....	1	6	130	6
Grey, sand shale .....	3	6	134	..
Black shale with bands of grey .....	35	2	169	2
Dark grey shale, sandstone bands....	6	10	176	..
Grey sandstone .....	18	9	194	9
Grey shale .....	18	11	213	8
Grey sandstone .....	4	4	218	..
Grey shale .....	6	..	224	..
Grey sandstone .....	2	7	226	7
Grey shale .....	15	5	242	..
Grey sandstone .....	17	..	259	..
Grey shale .....	21	6	280	6
Sandstone .....	2	..	282	6
Grey, sandy shale .....	3	5	285	11
Grey sandstone .....	9	8	295	7
Brown shale .....	1	..	296	7
Grey sandstone with brown bands ...	17	5	314	..
Sandstone with grey bands .....	18	7	332	7

Rock Bored	Thickness Bored		Total Depth	
	Ft.	In.	Ft.	In.
Grey shale with bands of sandstone..	62	3	394	10
Black shale .....	15	2	410	..
Coal .....		9	410	9
Shale with grey bands .....	15	3	426	..
Shale, grey with bands of sandstone.	13	8	439	8
Shale, grey with bands of sandstone.	7	..	446	8
Coal .....	..	7	447	3
Grey sandstone .....	2	3	449	6
Grey shale .....	17	9	467	3
Dark grey shale .....	1	7	468	10
Grey shale .....	2	6	471	4
Grey sandstone .....	25	4	496	8
Grey sandstone .....	27	7	524	3
Grey shale .....	3	..	527	3
Grey sandstone .....	13	9	541	..
Grey sandy shale .....	9	..	550	..
Grey shale with bands of sandstone..	6	3	556	3
Grey sandstone .....	31	11	588	2
Grey shale, dark .....	28	6	616	8
Grey sandstone .....	14	..	630	8
Grey sandstone with bands of shale..	3	4	634	..
Grey shale with bands of sandstone..	19	9	653	9
Dark grey shale .....	5	3	659	..
Grey sandstone .....	1	..	660	..
Clay .....	..	9	660	9
Sandstone .....	2	3	663	..
Clay .....	10	..	673	..
Clay .....	8	7	681	7
Sandstone .....	16	5	698	..
Shale .....	2	..	700	..
Sandstone .....	5	2	705	2
Shale with bands of sandstone .....	13	..	718	..
Shale with bands of sandstone .....	5	7	723	9
Grey shale .....	8	..	731	9
Grey sandstone .....	6	6	738	3
Grey sandstone .....	1	5	739	8
Shale, grey bands .....	16	4	756	..
Shale, with grey bands .....	9	..	765	..
Black shale .....	5	..	770	..
Coal .....	1	6	771	6

Rock Bored	Thickness Bored		Total Depth	
	Ft.	In.	Ft.	In.
Grey shale .....	..	4	771	10
Coal .....	5	..	776	10
Grey shale .....	4	3	781	1
Grey sandstone .....	7	8	788	9

This hole cost \$1389.46 or \$1.77 a foot, made up as follows:—

Labor .....	\$ 295.20
Management .....	306.00
Coal .....	670.56
Light, oil, waste .....	12.58
Carbons .....	70.39
Housing .....	34.73
	<hr/>
	\$1389.46

### SUCCESSFUL CANDIDATES MINING EXAMINATION, 1915.

Certificates of Competency and Certificates of Service were granted to the following applicants, after the annual examinations for recommending certificates for managers, underground managers, overmen and engineers, held in June 1915:

#### MANAGERS.

Patrick Walsh.....	Bridgeport
Dennis Pendergast.....	New Waterford
Samuel Gray.....	Joggins Mines
James I. Mason.....	Stellarton
Thomas McEwan.....	Westville

#### UNDERGROUND MANAGERS.

Walter C. Chard.....	New Aberdeen
Alex. Matheson.....	New Aberdeen
Alex. Harry Hynes .....	Dominion
John Rod Farrell.....	Dominion No. 4
Michael McLean.....	Caledonia Mines
Alexander Shaw.....	Joggins Mines
Burton Langille.....	Springhill
William Tingley.....	Westville
Arthur Breen.....	Westville

## OVERMEN.

Charles Gordon.....	Sydney Mines
William Finney.....	Sydney Mines
Harry Reynolds.....	New Aberdeen
James Swabe McDougall.....	New Aberdeen
Thomas Buchanan.....	Old Bridgeport
Thomas P. McKenzie.....	Sydney Mines
James Henderson.....	Port Caledonia
William C. Smith.....	New Waterford
Joseph J. Boudreau.....	New Waterford
Dan. F. Cameron.....	Dominion
Andrew Mathers.....	New Aberdeen
Andrew N. McIntyre.....	New Aberdeen
Neil J. Sutherland.....	New Waterford
John A. McLeod.....	MacKay's Corner
Thomas Blinkhorn.....	Florence
William McWilliams.....	New Waterford
Benjamin Hitchen.....	New Waterford
Frank Carleton.....	New Waterford
Henry Joseph Wilson.....	Glace Bay
John McNeil.....	River Hebert
Patrick O'Donnell.....	Joggins Mines
William H. Carrigan.....	Springhill
George Murray Ballantyne.....	Westville
Michael C. Wadden.....	Westville

## STATIONARY ENGINEERS.

*First Class Competency.*

James McVicar.....	Glace Bay
James Ray Campbell.....	Inverness

*Second Class Competency.*

Alexander Dooley.....	Dominion No. 3
John Birmingham.....	Sydney Mines
John Casey.....	Caledonia Mines
George Walter Payne.....	Port Hawkesbury
James W. McGowan.....	Sydney Mines
John V. Young.....	New Aberdeen
Donald McK. Weir.....	New Waterford
Donald J. McLeod.....	Glace Bay
William H. Boutilier.....	New Aberdeen
James S. Geldert.....	Springhill
Charles Henry Conway.....	Stellarton
Arthur Frederick Smith.....	Lyon's Brook



*Third Class Competency.*

Thomas Boutilier.....	New Waterford
William McDonald.....	Glacé Bay
John D. McKenzie.....	New Aberdeen
John W. McLeod.....	Glacé Bay
Wilfred Ratchford.....	Dominion No. 4
Austin A. Macnamara.....	Lower River Inhabitant
Joseph L. Boone.....	Dominion
Thomas Harris.....	New Aberdeen
Fitzgerald Brown.....	Glacé Bay
Christopher Robertson.....	Sydney Mines
Alexander Johnston.....	Sydney Mines
Gus Leblanc.....	New Waterford
Raymond Kiermashek.....	Dominion No. 4
James Cashan.....	Sydney Mines
Henry Lemuel Morgan.....	New Aberdeen
Hugh Reginald Smith.....	Blackstone, Ind.
Austin Egar Martin.....	Port Hawkesbury
Roderick McDonald.....	Westville
Thomas Smith.....	Westville
John Allan Baillie.....	Lyon's Brook
James Colin McDonald.....	Port Malcolm

## FIRST CLASS SERVICE.

Mathew Chipman Richardson.....	Westville
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## THIRD CLASS SERVICE.

John Casey.....	Caledonia Mines
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## FIREMEN'S LICENSE.

Angus J. McEachren.....	Inverness
Joseph Cole.....	No. 4 Sydney Mines
Arthur Hicks.....	Westville
Alfred Hicks.....	Westville

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# TABLES

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## NON-FATAL ACCIDENTS

*Coal Mines of Nova Scotia for fiscal year ended Sept. 30th, 1915.*

Date	Mine	Name	Age	Remarks
1914 Oct. 9	Broughton	Harry Suthrell .....	29	Overman. Shoulder dislocated by falling prop.
1915 Mar. 5	Dom. No. 5	Eugene McNevin .....	27	Miner. Ribs broken by a fall of stone.
June 4	" 9	Rory McDougall .....	46	Brattice man. Leg broken by a fall of stone.
June 15	" 2	Demitio Grabaucha ...	23	Loader. Ribs broken between boxes.
July 22	" 5	Wm. Hanrahan .....	36	Miner. Spine injured by fall of stone.
Sept. 3	" 6	Philip J. Slade .....	54	Timber man. Leg broken by fall of coal.
Sept. 14	" 2	Fred. Turner .....	32	Miner. Both legs broken by fall of stone.
" 14	" 10	Adam Lewis .....	37	Machine runner. Spine injured by fall of stone.
" 29	" 7	Harry Bourgnan .....	28	Miner. Back broken by fall of stone.
Dec. 10	" 12	Ellis Green .....	20	Laborer. Leg broken by a runaway box.
" 22	" 15	Charles Belatin .....	36	Shooter and loader. Leg broken by falling timber.
1915 Feb. 5	" 16	Martin Fedority .....	28	Machine helper. Leg broken by a fall of stone.
Mar. 15	" 15	Rod McDonald .....	21	Machine helper. Sight destroyed by a premature shot.
" 25	" 16	Herman McNeil .....	19	Cage-runner. Leg broken by a cage.
Mar. 31	" 16	Ernest Sachuck .....	28	Machine runner. Leg broken by fall of stone.
July 2	" 16	John Borrowitch .....	28	Shooter and loader. Leg broken by a fall of roof.
Sept. 5	" 15	Henry Bronski .....	28	Shooter and loader. Collar bone broken by fall of roof.
Sept. 8	" 15	Guiseppe Minello ...	...	Engine runner. Arm broken by being caught in coupling.



## NON-FATAL ACCIDENTS—(Continued).

Coal Mines of Nova Scotia, for fiscal year ended September 30, 1915.

Date	Mine	Name	Age	Remarks.
1914				
Oct. 10	Dom. No. 1	Dan Farrell .....	19	Driver. Caught between rope and wheel; hand hurt.
Nov. 15	"	John Currie .....	27	Driver. Leg broken by a falling timber.
" 27	"	John Otunick .....	27	Miner. Arm broken by a fall of coal.
Dec. 31	"	Alexander Martin....	71	Deputy. Breast injured by a box.
" 22	"	Angelo Jassie .....	48	Shooter and loader. Head injured by a falling timber.
1915				
Feb. 23	"	Michael Nearing .....	42	Miner. Leg broken by a fall of coal.
Mar. 18	"	William Walsh .....	...	Miner. Leg injured by a fall of stone.
May 8	"	N. McNeil .....	28	Deepman. Struck by a box, body injured.
" 12	"	Dan McDonald .....	23	Driver. Leg injured by a box.
" 22	"	Frank Rosensky .....	22	Driver. Hand injured by a fall of stone.
" 29	"	Hubert White .....	35	Miner. Leg broken by a fall of stone.
July 2	"	Angelo Fanilo .....	48	Shooter and loader. Collar bone broken by a fall of coal.
1914				
Oct. 17	Florence	Angus McDonald.....	26	Foot caught in rope, breaking small bone in leg.
Nov. 4	Princess	John T. McLean.....	48	Caught between box and roof. Chest injured.
1915				
Feb. 23	Princess	John Ward .....	19	Back injured by runaway box.
" 25	Queen	John Rudgoe .....	25	Face and chest hurt while connecting wires.
Apr. 13	Princess	Alex. McPhee .....	20	Left leg broken by empty trip.

"	27	Florence	John O'Quinn.....	27	Fall of coal. Head injured.
May	4	Florence	John Russell .....	31	Fall of stone. Leg broken.
June	30	Princess	Joseph Armour .....	30	Fall of coal, injured around body.
July	3	Florence	Murdoch McKeigan..	39	Fall of stone, injured around body.
"	6	Queen	Ed. Griffiths .....	50	Caps exploded in can. Hands injured.
"	26	Lloyd's	John E. Ryan.....	31	Foot caught between box and rail. Ankle broken.
Aug.	24	Scotia	Joseph O'Toole.....	30	Fall of stone. Ribs broken.
Sept.	23	Lloyd's	Charles Roberts.....	34	Fall of stone. Ankle broken.
1914					
Oct.	13	Drummond	Rod Stewart .....	24	Bankhead man. Broke his arm by falling off bench.
Nov.	13	Albion	Robert Baxter .....	16	Trapper. Broke his arm between box and shafts.
"	15	Allan	Thomas Scully.....	39	Overman. Leg broken by being caught between boxes.
1915					
Jan.	15	McGregor	Frank Munro .....	44	Miner. Back injured by a stone from shot.
Feb.	5	Albion	Alfred McAulay.....	22	Bankhead boy. Caught between box and creeper, collar-bone broken.
"	19	Drummond	Herbert Findlay.....	16	Picking-belt boy. Arm broken by falling off picking table.
"	27	Albion	Pierre Remakers.....	29	Miner. Arm injured by shot.
Apr.	15	"	William Clarke .....	25	Machinist. Finger cut off at first joint by being caught in cogwheel.
May	13	"	John McKinnon .....	24	Miner. Body and leg injured by premature shot.
"	13	"	Finlay Fraser .....	46	Miner. Slightly injured by premature shot.
"	14	"	Leonard Nicholson...	17	Chute loader. Bone in leg broken by lump of coal falling from chute.
June	19	Scott	Thomas Clay.....	26	Miner. Leg broken by fall of coal.
"	21	"	William Ross.....	54	Miner. Leg broken by fall of coal.
"	24	Drummond	John S. McDonald...	30	Machinist. Injured about the hips by a car on the slope.
"	24	Allan	Charles DeWolfe....	30	Miner. Foot injured by a fall of coal.

## NON-FATAL ACCIDENTS—(Continued).

*Coal Mines of Nova Scotia, for fiscal year ended September 30, 1915.*

Date	Mine	Name	Age	Remarks.
July 5	Drummond	James Marshall.....	26	Sawyer. Hand injured by saw.
Sept. 9	"	Adam Hamilton.....	17	Screen-boy. Hand injured trying to block a car.
Sept. 10	"	James Lockhead.....	15	Bank-boy. Wrist broken by being caught between cars.
July 27	McGregor	Angus Cameron.....	50	Machinist. Finger broken by being caught in engine.
Aug. 9	Albion	George Morrell.....	17	Cage-runner. Leg broken in two places; run over by cage.
Sept. 11	"	Ed. Bossman.....	15	Bank-boy. Head cut, between boxes.
" 13	"	Albert Arnold.....	33	Miner. Leg broken by being caught by rope on drum.
1914				
Oct. 1	Inverness	Alex. McLeod.....	24	Shiftman. Driving, caught between boxes and rib. Severe injury.
" 14	"	John D. McLellan....	23	Driver. Uncoupling chain off empty rake, slipped and rope caught foot against guard rail. Left leg broken.
Nov. 11	"	Peter Perry.....	56	Laborer. Struck on leg by refuse track rope. Broken ankle.
" 14	"	Stewart Cameron.....	32	Miner. Caught between boxes and rib, hips badly squeezed.
" 18	"	Neil Sinclair.....	52	Carpenter. Fall of staging, lacerated wound on left hand.
" 24	"	Edward B. McDonald..	33	Oilier. Struck by full rake on bankhead, right leg broken.
" 28	"	Hugh G. McDougall..	23	Miner. His own pick glanced off coal, gash on calf of leg.
1915				
Jan. 8	"	Mike Ryan .....	38	Miner. Fall of coal. Back injured.
" 23	"	Jas. R. Campbell.....	28	Engineer. Fell from staging. Hip and side of face bruised.

Feb. 13	"	Abdul Abraham.....	24	Pumpman. Hand and fingers caught in pump. Four fingers on right hand crushed.
" 19	"	Ronald McDonald....	52	Laborer. Dropping car from bankhead. Slight cut on head.
Mar. 6	"	Edward McQuarrie...	21	Laborer. Hand caught between brake-wheel of box car and bankhead. Second finger on right hand cut and bruised.
" 20	"	Augustian Quieva....	45	Miner. Fall of coal. Right leg broken below knee.
" 22	"	Joseph Lambert.....	71	Road cleaner. Caught by trip of boxes. Left leg fractured.
Apr. 12	"	Alex. McMaster.....	23	Cage runner. Struck by cage. Right leg broken.
May 14	"	Dan. N. Judson.....	36	Miner. Carried down chute. Cut and bruised on head and face.
" 29	"	Henry Burny .....	28	Miner. Struck by piece of timber while in chute. Left leg broken.
June 12	"	Angus McIsaac.....	36	Miner. Fall of rock from roof. Right leg broken.
" 30	"	Emile Friard.....	35	Miner. Fall of rock from roof. Cut about head and face.
Aug. 11	"	John Angus Campbell.	20	Chute loader. Jumping on full rake, right ankle bruised, back squeezed.
Sept. 4	"	Gusave Pettipas.....	36	Miner. Fall of coal from roof. Back injured.
" 21	"	Lauchie Meagher...	34	Miner. Cutting a boom with axe. Right ankle cut.
" 28	"	Pat. McLellan .....	31	Miner. Getting on riding rake, fell. Bruised ankle.
Jan. 4	Richmond	Garfield Hallett.....	28	Shift-boss. Machine kicked back. Sprained wrist.
Feb. 13	"	M. J. Proctor.....	39	Mucker. Slight abrasion of middle finger on right hand.
1914				
Oct. 2	Spr'ghill No. 2	Sulekevith Nocolay...	30	Loader. Back injured by full trip.
" 7	"	Henry Cunningham...	45	Examiner. Arm broken while pushing boxes.
" 8	"	Santo Galtase.....	55	Miner. Foot hurt by a fall of stone.
" 9	"	Charles Pervse.....	32	Miner. Finger smashed while coping a box.
" 15	"	William Main.....	17	Chain-runner. Shoulder dislocated while coping box.
" 21	"	Asa Terris.....	55	Timberman. Bone in ankle broken by slipping on balance.



## NON-FATAL ACCIDENTS—(Continued).

*Coal Mines of Nova Scotia for fiscal year ended Sept. 30th, 1915.*

Date	Mine	Name	Age	Remarks.
Nov. 6	Spr'ghill No. 2	Murray McPherson...	29	Laborer. Back and ribs injured by falling off full box.
" 10	" 2	David Price.....	45	Miner. Sprained his ankle getting off the riding rake.
" 11	" 2	Bert O'Brien.....	17	Trapper. Head and face cut by being caught between boxes.
" 12	" 2	Ferdinand Turner ...	42	Miner. Sprained his ankle by falling off staging.
" 18	Spr'ghill No. 2	Peter Scott .....	23	Laborer. Leg broken by being caught between horse and full box.
" 21	" 2	John Brennan .....	21	Miner. Leg and two fingers broken by full rake.
Feb. 1	" 2	Ignatro Chipyek.....	33	Loader. Leg broken by moving box.
" 8	" 2	Penman Hiller.....	18	Driver. Hip injured by being caught between boxes.
" 17	" 2	Gilbert Mansell.....	25	Cage-runner. Foot injured by cage.
" 22	" 2	Norman Boutillier....	25	Cage-runner. Hand injured by box on cage.
" 23	" 2	Emelian Swilk.....	24	Loader. Knee injured by fall of coal.
" 25	" 2	George Sutherland....	24	Miner. Leg injured by fall of coal.
" 25	" 2	Thomas Williams.....	17	Driver. Hand injured by trace.
Mar. 12	" 2	Charles Lockhart.....	19	Bottomer. Leg injured by empty rake.
" 12	" 2	Leslie Gallagher.....	19	Bottomer. Hand injured by full rake.
Apr. 3	" 2	Duncan Lorimer.....	24	Miner. Leg broken by fall of packing.
May 7	" 2	James Morrison.....	25	Miner. Leg injured by fall of stone.
" 10	" 2	John D. McNeil.....	33	Miner. Hand injured against fan-pipe.
June 11	" 2	Steven McLean.....	33	Timberman. Hand injured by fall of stone.

"	29	"	"	2	Charles Kempt.....	25	Miner.	Hip injured by fall of coal.
July	7	"	"	2	George Kasoff.....	23	Loader.	Back injured by a falling prop.
July	8	"	"	2	Hugh McPherson....	45	Miner.	Hand injured by wheel.
"	8	"	"	2	Melvin Rushton.....	44	Miner.	Head injured by fall of coal.
"	23	"	"	2	John R. Cameron....	37	Miner.	While pushing full box he injured back.
Aug.	4	"	"	2	Beli Lonavenguk....	30	Loader.	Face and breast injured by falling coal.
"	4	"	"	2	George Wood .....	36	Timberman.	Hand smashed while timbering.
"	10	"	"	2	Wm. J. Coles.....	38	Miner.	Ribs broken and face cut by fall of coal.
"	12	"	"	2	William McPherson..	42	Miner.	Hand cut by axe.
"	26	"	"	2	George Harroun.....	28	Driver.	Shoulder hurt by striking prop.
Sept.	14	"	"	2	Sam Liger.....	32	Miner.	Head and back injured by fall of stone.
1914								
Oct.	1	Spr'ghill No. 3	James McPhee.....	57	Timberman.		Wrist broken by pipe falling on it.	
"	6	"	Joe N. Spence.....	22	Cage-runner.		Finger injured by box running over it.	
1915								
Feb.	1	"	"	3	Amos Brown .....	44	Miner.	Foot injured by fall of stone.
"	8	"	"	3	W. D. Allan.....	34	Miner.	Shoulder hurt by fall of stone.
"	19	"	"	3	David Mitchell.....	23	Trip runner.	Foot injured by box.
Mar.	12	"	"	3	Metropen Cutleraffo..	26	Miner.	Foot injured by a fall of coal.
"	12	"	"	3	Courtney Casey.....	21	Bottomer.	Bone in leg broken by the rake.
"	23	"	"	3	Gulliss Snyder.....	30	Miner.	Leg injured by boxes.
"	26	"	"	3	Wallace Brown .....	22	Miner.	Hand injured by being caught between box and roof.
"	29	"	"	3	Wasil Emachuk .....	21	Miner.	Hand injured by fall of stone.
Apr.	3	"	"	3	Layton McCallum....	33	Chainman	Finger injured by coping box.
"	5	"	"	3	James Warners.....	35	Miner.	Leg injured by fall of stone.
Apr.	6	"	"	3	James R. Cook.....	59	Miner.	Foot injured by box.
"	19	"	"	3	George Pearson.....	47	Timberman.	Finger injured by coal falling.
"	23	"	"	3	George Pugsley .....	39	Miner.	Ankle injured by fall of stone.

NON-FATAL ACCIDENTS—(Continued).  
*Coal Mines of Nova Scotia for fiscal year ended Sept. 30th, 1915.*

Date	Mine	Name	Age	Remarks.
June 11	Spanghill No. 3	Guy Wood .....	20	Chain runner. Head injured by riding on box.
" 11	" "	Mike Moore .....	37	Miner. One finger cut off and one broken, run over by box.
" 11	" "	Neil Ross .....	55	Miner. Hip injured by fall of coal.
" 29	" "	Crawford Connelly...	53	Miner. Foot injured by fall of coal.
" 29	" "	Edward Watson....	38	Miner. Foot injured by fall of stone.
July 5	" "	Steven Hollinskie...	20	Miner. Ankle sprained, struck by timber.
" 8	" "	Herbert Smith .....	21	Miner. Foot injured, caught under box.
" 21	" "	Thomas Chapman...	25	Laborer. Arm broken at wrist by an empty box.
" 25	" "	Sychuck Saffron....	19	Loader. Head injured, struck against roof.
" 27	" "	James Milley.....	23	Miner. Leg injured by box.
Aug. 24	" "	Nicolay Sulikovich...	35	Loader. Head and foot injured by a fall of coal.
" 25	" "	George W. Brown....	24	Cage runner. Injured by being run over by cage; concussion of brain.
" 31	" "	George Barry .....	41	Driver. Injured between box and prop.
Sept. 4	" "	Freeman Finlay .....	37	Chain runner. Back injured by box on sheets.
May 31	Victoria	Steven Nicholson....	24	Miner. Head and right foot injured by a runaway box.
June 14	Joggins	James Fairley.....	43	Overman. Leg fractured by breaking of haulage rope.
" 14	"	Alex. Archibald .....	65	Timberman. Fractured leg by breaking of a haulage rope.
" 14	"	James Maloney .....	40	Miner. Leg broken by breaking of a haulage rope.

"	14	"	Arnold Burke .....	21	Miner.	Head injured by the breaking of a haulage rope.
"	14	"	William Dewyer .....	45	Miner.	Ankle hurt by the breaking of a haulage rope.
"	14	"	Charles Kent .....	32	U. G. Manager.	Slightly bruised by the breaking of a haulage rope.
"	14	"	Edward Burke .....	22	Miner.	Badly bruised by the breaking of a haulage rope.



**FATAL ACCIDENTS**  
*Coal Mines of Nova Scotia for fiscal year ended Sept. 30th, 1915.*

Date	Mine	Name	Age	Occupation.	Nature of Accidents.	Verdict of Coroner's Inquest
1914						
Nov. 19	Dom. No.	Richard Lawlor.....	54	Trapper.	Killed by runaway box.	Accidental.
Dec. 5	"	William Tracey .....	45	Machinist.	Killed by full trip.	"
" 11	"	Hugh Steele .....	17	Driver.	Killed by full trip.	"
1915						
Feb. 5	"	Adam Trente .....	43	Shooter and loader.	Killed by falling boom.	No inquest.
Mar. 8	"	James Edwards .....	50	Miner.	Died Feb. 27, 1915.	Accidental.
Apr. 1	"	Edward Flavin .....	42	Miner.	Killed by fall of stone.	"
" 1	"	Servine Gouthro.....	46	Miner.	Killed by fall of stone.	"
May 12	"	Daniel Anderson.....	19	Driver.	Killed by fall of stone.	"
June 4	"	Andre Lebonis .....	43	Miner.	Killed by a fall of stone.	"
" 15	"	Abe Barrett .....	44	Shooter and loader.	Killed by a fall of stone.	"
" 9	"	Daniel Stewart .....	50	Miner.	Killed by a fall of coal.	No inquest.
" 17	"	Charles Dye .....	19	Car runner.	Killed by cars on the surface, colliery yard.	Accidental.
July 3	"	Alex. Degaust .....	30	Machiner-runner.	Killed by fall of stone.	"
" 9	"	John Murphy .....	37	Miner.	Killed by fall of stone.	"
Aug. 21	"	Joseph Pastusek .....	16	Driver.	Killed, jammed between box and prop.	Accidental.
1914						

Oct. 5	Florence	James Lamond .....	56	Killed. Caught between box and prop.	Accidental.
Dec. 16	Scotia	Thomas White .....	33	Killed. Fall of stone.	"
Oct. 10	Dom. No. 1	A. T. Ferguson .....	52	Overman. Killed by a box.	No inquest, died in hospital some months after injury.
1915					Accidental.
Jan. 29	Dom. No. 1	Anthmis Admino .....	48	Shooter and loader. Killed by fall of coal.	"
Aug. 17	" 1	Thomas Brown .....	29	Road boss. Killed by a fall of stone.	"
1914					"
Oct. 27	" 1	Pat Chiasson .....	21	Slopeman. Killed by trip.	Killed by pot stone while removing timber.
Dec. 2	" 14	Daragha Pomyea .....	25	Shooter and loader. Killed by fall of roof.	Accidental.
1915					"
Feb. 12	" 12	Andrew Nevat .....	28	Shooter and loader. Killed by fall of roof.	"
" 16	" 16	Louis Milo .....	28	Landing tender. Killed by a runaway box.	"
May 19	" 15	William Ramsay .....	33	Miner. Killed by a fall of roof.	"
" 19	" 16	Mark McDonald .....	34	Miner. Killed by a fall of roof.	"
July 22	" 16	Fernando Cavasotte ..	29	Miner. Killed by a fall of coal.	"
Aug. 5	" 12	Allan McDonald .....	41	Laborer. Killed by a fall of roof.	Unavoidable accident.
1914					
Dec. 20	Allan	James Brown .....	52	Manager. Killed by gas following an explosion.	Accidental.
Dec. 20	Allan	Thomas Blackwood...	64	Deputy Inspector killed by gas following an explosion.	"
1915					
Mar. 26	Allan	Charles Potts .....	34	Slopeman. Killed by falling under full trip.	No inquest. Lived 9 days after accident.
June 29	Drummond	John McDonald .....	27	Chain-runner. Run over by trip and killed.	Accidental.
" 29	Drummond	George Ballantyne....	33	Distributor. Run over by trip and killed.	No inquest. Facts the same as in the case of John McDonald.

FATAL ACCIDENTS—(Continued).  
*Coal Mines of Nova Scotia for fiscal year ended Sept. 30th, 1915.*

Date	Mine	Name	Age	Occupation. Nature of Accidents.	Verdict of Coroner's Inquest
Dec. 23	Spr'ghill No. 2	Percy Casey .....	17	Loader. Killed by runaway boxes.	Killed by runaway ginney at bottom of incline. Rope not hooked on.
" 23	" "	Peter Canfield .....	16	Loader. Killed by runaway boxes.	Accidental. Particulars the same as in the case of Percy Casey.
1915	" "	James Burton .....	15	Trapper. Killed by a fall of stone.	Accidental.
Apr. 29	" "	George Ridgeway ...	32	Miner. Killed by a fall of stone.	No blame attached to anyone.
Sept. 28	" "	Thomas Jennings ....	44	Miner. Killed by a fall of stone.	Accidental.
June 1	Joggins	Harry Gibson .....	35	Miner. Killed by the breaking of a haulage rope.	Death was result of defective rope. Inspection and lubrication neglected. Recommend an investigation.
" 14	Joggins				We think deceased met death by a fall of coal.
Dec. 14	Inverness	Bernard DeCoste ....	35	Miner. Fall of coal, fatal.	Death caused by slipping or falling underneath boxes of coal while in motion.
" 29	Inverness	Murdock A. McDonald	19	Chain-runner. Getting on full rake fell or slipped beneath boxes. Fatal.	

## FATAL ACCIDENTS, NOVA SCOTIA COAL MINES.

UNITED STATES

Year	Fatal Accidents from all Causes	Per 1000 men employed	Per 1,000,000 tons of 2240 lb.	Per 1,000,000 tons of 2000 lb.	Production per man		Per 1000 men employed	Per 1,000,000 tons of 2000 lb.	Produc- tion per man tons of 2000 lb
					Tons of 2240 lb.	Tons of 2000 lb.			
1908.....	43	3.32	6.82	6.09	487	545	3.64	6.05	603
1909.....	34	2.81	6.51	5.81	432	484	4.00	5.79	691
1910.....	31	2.81	5.66	5.05	498	558	3.98	5.66	692
1911.....	36	2.81	5.79	5.17	494	553	3.73	5.48	681
1912.....	34	2.56	4.99	4.45	511	572	3.27	4.41	739
1913.....	48	3.51	6.66	5.95	527	590	3.73	4.89	762
1914.....	37	2.53	5.28	4.71	479	536	3.30	4.81	686
	.....	2.9	5.90	5.3	489	548	3.63	5.28	694
1915.....	41	3.27	6.42	6.00	508	569	.....	.....	.....







## DOMINION NO. 1 COLLIERY.

Narrow Work Driven, feet—Sept. 30, 1914, to Sept. 30, 1915.

	Deeps	Total Length	Levels	Total Length	Depth of Covers	Remarks
No. 10 Levels Angle Deep.....	.....	.....	550	7579	225	From Angle Deep
No. 11 " ".....	.....	.....	400	6130	297	"
No. 12 " ".....	.....	.....	.....	2200	.....	"
No. 13 " ".....	.....	.....	720	3100	432	"
Main Angle Deep.....	490	13720	.....	.....	563	From Shaft
No. 14 North Levels.....	.....	.....	240	.....	502	"
Auxiliary Deep .....	570	3320	.....	.....	622	From No. 13 N. Level

## DOMINION NO. 2 COLLIERY.

## SOUTH DEEP.

Narrow Work Driven, feet—Sept. 30, 1914, to Sept. 30, 1915.

	Deeps	Total Length	High Levels	Low Levels	Total Length	Depth of Covers	Remarks
No. 1 South Lev., stopped	.....	.....	400	400	2330	777	From Main South Deep
No. 2 "	.....	.....	510	460	1400	786	"
No. 3 "	.....	.....	800	830	1450	850	"
No. 4 "	.....	.....	540	580	740	888	"
No. 5 "	.....	.....	280	300	390	925	"
No. 2 North	.....	.....	900	900	1500	.....	"
No. 3 "	.....	.....	790	790	1080	.....	"
No. 4 "	.....	.....	450	550	550	889	"
Main South Deep.....	390	3850	.....	.....	.....	946	"
Back South Deep.....	380	3850	.....	.....	.....	946	From Main South Level



## DOMINION NO. 2 COLLIERY.

## No. 1 NORTH DEEP.

*Narrow Work Driven, feet—Sept. 30, 1914, to Sept. 30, 1915.*

	Deeps	Total Length	High Levels	Low Levels	Total Length	Depth of Covers	Remarks
No. 1 North Level	.....	.....	250	200	2140	.....	From Main Deep
No. 2 "	.....	.....	150	150	700	.....	"
No. 3 "	.....	.....	440	460	550	914	"
No. 4 "	.....	.....	310	290	310	940	"
No. 3 South "	.....	.....	270	300	300	.....	"
No. 4 "	.....	.....	350	300	300	937	"
Main No. 1 North Deep.	850	4790	.....	.....	.....	958	From Motor Level
Back No. 1 North Deep.	870	4790	.....	.....	.....	958	"

## DOMINION NO. 2 COLLIERY.

## No. 2 NORTH DEEP.

Narrow Work Driven, feet—Sept 30, 1914, to Sept. 30, 1915.

	Deeps	Total Length	High Levels	Low Levels	Total Length	Depth of Covers	Remarks
No. 1 North Level.....	.....	.....	220	160	2370	662	From No. 2 Main Deep
No. 2 " .....	.....	.....	820	780	1600	708	"
No. 3 " .....	.....	.....	370	320	370	793	"
Main Deep .....	710	4550	.....	780	1600	708	From North Motor Level
Back Deep .....	630	.....	.....	.....	.....	.....	From Coal Shaft
N. Motor Level, N. Side.	350	8560	.....	.....	.....	789	
N. Motor Level, S. Side.	300	.....	.....	.....	.....	.....	

## DOMINION NO. 4 COLLIERY.

## EAST DEEP.

Narrow Work Driven, feet—Sept. 30, 1914, to Sept. 30, 1915.

	Deeps	Total Length	High Levels	Low Levels	Total Length	Depth of Covers	Remarks
No. 8 E. Level, under sea	.....	.....	220	200	6520	222	From Main East Deep
No. 9 " " "	.....	.....	420	430	6480	290	"
No. 10 " " "	.....	.....	570	590	3570	391	"
No. 11 " " "	.....	.....	570	600	3060	463	"
No. 12 " " "	.....	.....	660	670	.....	532	"
No. 10 W. " " "	.....	.....	490	500	2420	.....	"
No. 11 W. " " "	.....	.....	550	610	1300	559	"
Main East Deep.....	330	.....	.....	.....	8540	.....	From Shaft Level
Back East Deep.....	200	.....	.....	.....	.....	623	

## WEST DEEP.

No. 8 E. Lev., to barrier.	.....	.....	130	120	4060	623	From Main West Deep
No. 9 E. Lev., to barrier.	.....	.....	400	400	2570	.....	"

## DOMINION NO. 6 COLLIERY.

Narrow Work Driven, feet—Sept. 30, 1914, to Sept. 30, 1915.

	Deeps	Total Length	High Levels	Low Levels	Total Length	Depth of Covers	Remarks
No. 6 West Level.....	.....	.....	410	330	6000	275	From Main Deep
No. 7 " ".....	.....	.....	1260	1265	4430	399	"
No. 8 " ".....	.....	.....	1100	1160	1800	512	"
No. 7 East " ".....	.....	.....	90	100	1180	465	"
No. 8 " ".....	.....	.....	450	420	553	553	"

## DOMINION NO. 7 MINE.

Narrow Work Driven, feet—Sept. 30, 1914, to Sept. 30, 1915.

	Deeps	Total Length	High Levels	Low Levels	Total Length	Depth of Covers	Remarks
No. 4 North Level.....	.....	.....	450	430	3750	230	From Main Deep
No. 5 " ".....	.....	.....	180	No Advc.	1420	332	"
No. 5 South " ".....	.....	.....	300	350	1530	312	"
No. 7 " ".....	.....	.....	270	200	460	494	"
Back Deep .....	70	.....	.....	.....	8820	517	From Coal Shaft



## DOMINION NO. 9 COLLIERY.

Narrow Work Driven, feet—Sept. 30, 1914, to Sept. 30, 1915.

	Deeps	Total Length	High Levels	Low Levels	Total Length	Depth of Covers	Remarks
No. 2 N. Level, N. Deep.	.....	.....	110	110	5210	195	From Main North Deep
No. 2 N. Lv, N. Angle Dp	.....	.....	1240	1170	2710	363	From Main N. Angle Dp.
No. 3 N. Lv, N. Angle Dp	.....	.....	1260	1250	2750	370	From Main N. Angle Dp.
Main Angle Deep.....	480	4530	.....	.....	.....	573	From North Deep
Back Deep .....	390	.....	.....	.....	.....	.....	.....
No. 4 N. Lv, S. Ang. Dp.	.....	.....	120	150	150	540	From Main South Deep
No. 3 S. Lv, S. Ang. Dp.	.....	.....	330	350	6000	249	"
No. 4 S. Lv, S. Ang. Dp.	.....	.....	820	850	5520	348	"
No. 5 S. Lv, S. Ang. Dp.	.....	.....	560	580	2180	472	"
No. 6 S. Lv, S. Ang. Dp.	.....	.....	80	80	80	573	"
Main Angle Deep.....	260	4540	.....	.....	.....	581	"
Back Angle Deep.....	270	.....	.....	.....	.....	.....	"

## DOMINION NO. 10 COLLIERY.

Narrow Work Driven, feet—Sept. 30, 1914, to Sept. 30, 1915.

	Deeps	Total Length	High Levels	Levels	Total Length	Depth of Covers	Remarks
No. 5 North Level.....	.....	.....	410	340	1800	.....	From Main Deep
No. 4 South Level.....	.....	.....	450	320	2850	.....	"
No. 5 " .....	.....	.....	630	770	1860	.....	"
Shaft Level .....	.....	.....	150	210	3710	.....	From Coal Shaft

## DOMINION NO. 11 COLLIERY.

Narrow Work Driven, feet—Sept. 30, 1914, to Sept. 30, 1915.

	Deeps	Total Length	High Levels	Levels	Total Length	Depth of Covers	Remarks
No. 2 West Level .....	.....	.....	1240	1120	2460	.....	From Main Deep
No. 3 " .....	.....	.....	570	550	1200	.....	"
No. 4 " .....	.....	.....	690	520	1160	.....	"
No. 2 East " .....	.....	.....	50	90	1520	.....	"
No. 4 " .....	.....	.....	750	730	830	.....	"
Main Deep .....	250	2240	.....	.....	.....	.....	From Slope Mouth
Back Deep .....	360	.....	.....	.....	.....	.....	

## DOMINION NO. 12 COLLIERY.

*Narrow Work Driven, feet—Sept. 30, 1914, to Sept. 30, 1915.*

	Deeps	Total Length	Levels	Total Length	Depth of Covers	Remarks
No. 1 West Level	.....	.....	650	4358	36	
No. 2 "	.....	.....	580	4422	178	
No. 3 "	.....	.....	545	4398	262	
No. 4 "	.....	.....	560	2647	374	
No. 5 "	.....	.....	550	3945	485	
No. 6 "	.....	.....	875	2315	555	
No. 7 "	.....	.....	600	730	690	
No. 6 East Level	.....	.....	630	2825	587	
No. 7 "	.....	.....	800	800	680	
Main Deep	500	4620	.....	.....	750	

## DOMINION NO. 14 COLLIERY.

*Narrow Work Driven, feet—Sept. 30, 1914, to Sept. 30, 1915.*

	Deeps	Total Length	Levels	Total Length	Depth of Covers	Remarks
No. 2 East Level	.....	.....	133	3460	170	
No. 3 "	.....	.....	330	3550	265	
No. 4 "	.....	.....	550	3475	375	
No. 5 "	.....	.....	855	3790	440	
No. 6 "	.....	.....	1370	3020	580	
No. 7 "	.....	.....	1370	2420	690	
No. 8 "	.....	.....	600	680	796	
No. 9 "	.....	.....	240	240	870	
No. 6 West "	.....	.....	1035	2608	570	
No. 7 "	.....	.....	1700	2460	680	
No. 8 "	.....	.....	820	920	789	
Deeps	500	5600			885	

## DOMINION NO. 15 COLLIERY.

Narrow Work Driven, feet—Sept. 30, 1914, to Sept. 30, 1915.

	Deeps	Total Length	Levels	Total Length	Depth of Covers	Remarks
No. 3 West Level	.....	.....	260	2910	429	
No. 4 " "	.....	.....	150	2550	591	
No. 5 " "	.....	.....	660	1150	762	
Lodgment	300	300	.....	.....	.....	
No. 2 East	.....	.....	138	4288	200	
No. 3 " "	.....	.....	650	3550	348	
No. 4 " "	.....	.....	785	3235	610	
No. 5 " "	.....	.....	715	1515	773	



## DOMINION NO. 16 COLLIERY.

*Narrow Work Driven, feet—Sept. 30, 1914, to Sept. 30, 1915.*

	Deeps	Total Length	Levels	Total Length	Depth of Covers	Remarks
No. 1 West Level	.....	.....	600	4280	58	
No. 2 "	.....	.....	610	3900	360	
No. 3 "	.....	.....	760	3400	469	
No. 4 "	.....	.....	620	2350	608	
No. 5 "	.....	.....	170	250	768	
No. 5 East "	.....	.....	330	.....	744	
Deeps	.....	3400	.....	.....	852	

## DOMINION NO. 21 COLLIERY.

Narrow Work Driven, feet—Sept. 30, 1914, to Sept. 30, 1915.

	Deeps	Total Length	High Levels	Low Levels	Total Length	Depth of Covers	Remarks
No. 1 East Level	.....	.....	370	80	1860	.....	From Main Deep
No. 2 " "	.....	.....	180	.....	1190	.....	"
No. 2 West " "	.....	.....	30	110	1640	.....	"

## DOMINION NO. 22 COLLIERY.

Narrow Work Driven, feet—Sept. 30, 1914, to Sept. 30, 1915.

	Deeps	Length Total	High Levels	Low Levels	Total Length	Depth of Covers	Remarks
No. 2 East Level	.....	.....	180	.....	670	.....	From Main Deep
No. 1 West " "	.....	.....	800	.....	2530	.....	"
No. 2 " "	.....	.....	790	.....	1170	.....	"

## DOMINION COAL COMPANY, LIMITED.

*Statement showing production from Narrow Works, Rooms, etc., for year ended September 30th, 1915.*

Colliery	Narrow Work		Machine Rooms		Hand Rooms		Pillars		Longwall		Unclassified	Total Output
	Tons	%	Tons	%	Tons	%	Tons	%	Tons	%		
No. 1	46,595	9.9	322,468	68.5	8,285	1.8	88,346	18.7	.....	.....	5,174	470,868
2	175,815	24.7	210,523	29.6	151,353	21.3	166,835	23.5	.....	.....	6,323	710,849
3	.....	.....	.....	.....	31,921	61.5	19,855	38.3	.....	.....	104	51,880
4	46,701	14.8	226,286	71.8	30,018	9.5	8,820	2.8	.....	.....	3,433	315,258
5	.....	.....	.....	.....	42,561	29.3	101,383	69.8	.....	.....	1,265	145,209
6	55,722	23.0	170,071	70.1	.....	.....	15,673	6.5	.....	.....	956	242,422
7	23,394	12.3	110,109	57.8	47,174	24.7	8,898	4.7	.....	.....	1,005	190,580
9	90,579	23.8	224,828	59.2	20,946	5.5	43,057	11.3	.....	.....	671	380,081
10	37,637	24.3	91,086	59.1	.....	.....	.....	.....	24,808	16.1	747	154,278
11	31,667	32.4	66,050	67.4	.....	.....	.....	.....	.....	.....	157	97,874
12	63,227	17.1	187,479	50.7	9,090	2.5	109,228	29.6	.....	.....	427	369,451
14	129,122	32.8	264,825	67.1	.....	.....	.....	.....	.....	.....	327	394,274
15	43,435	17.1	130,080	51.2	7,737	3.1	13,632	5.4	58,479	23.1	113	253,476
16	32,139	11.2	176,637	61.1	18,396	6.4	13,232	4.6	48,872	16.8	.....	289,276
21	6,022	7.5	51,819	64.4	.....	.....	22,638	28.1	.....	.....	7	80,486
22	27,656	15.8	84,060	48.0	.....	.....	63,255	36.0	.....	.....	315	175,286
TOTAL	809,711	18.7	2316,321	53.6	367,481	8.5	674,852	15.6	132,159	3.1	21,024	4,321,548

NOVA SCOTIA STEEL & COAL COMPANY.  
FLORENCE COLLIERY.

*Narrow Work Driven, feet—Sept. 30, 1914, to Sept. 30, 1915.*

	Deeps	Total Length	Levels	Total Length	Depth of Covers	Remarks
No. 8 S.....	.....	.....	360	3960	304	
No. 9 S.....	.....	.....	390	4040	360	
No. 10 S.....	.....	.....	490	3710	408	
No. 11 S.....	.....	.....	275	3475	459	
No. 13 S.....	.....	.....	210	2910	584	
No. 14 S.....	.....	.....	510	2660	648	
Main Deeps .....	.....	885	.....	.....	689	
Angle Deeps .....	.....	3200	.....	.....	.....	
No. 2 Level, Angle Deep.....	.....	.....	120	2830	.....	

## SCOTIA COLLIERY.

Narrow Work Driven, feet—Sept. 30, 1914, to Sept. 30, 1915.

	Deeps	Total Length	Levels	Total Length	Depth of Covers	Remarks
No. 4 S.	.....	.....	180	2830	.....	
No. 5 S.	.....	.....	390	2720	.....	
No. 6 S.	.....	.....	550	2300	.....	
No. 7 S.	.....	.....	350	1300	.....	
No. 7 N.	.....	.....	.....	440	.....	
No. 8 S.	.....	.....	270	600	.....	
No. 8 N.	.....	.....	410	580	.....	
Deeps .....	220	5020	.....	.....	395.5	
No. 9 S.	.....	.....	20	20	.....	
No. 9 N.	.....	.....	46	46	.....	



## LLOYD'S COLLIERY.

Narrow Work Driven, feet—Sept. 30, 1914, to Sept. 30, 1915.

	Deeps	Total Length	Levels	Total Length	Depth of Covers	Remarks
No. 5 N.....	.....	.....	.....	2700	282	
No. 6 N.....	.....	.....	620	2720	322	
No. 6 S.....	.....	.....	.....	1700	339	
No. 7 N.....	.....	.....	510	1810	405	
No. 7 S.....	.....	.....	.....	1200	.....	
No. 8 N.....	.....	.....	120	770	465	
No. 8 S.....	.....	.....	300	950	459	
Deeps .....	.....	6660	.....	.....	501	

## PRINCESS COLLIERY.

Narrow Work Driven, feet—Sept. 30, 1914, to Sept. 30, 1915.

	Deeps	Total Length	Levels	Total Length	Depth of Covers	Remarks
New Deeps .....	656	2030	.....	.....	1410.5	
No. 1 N.....	.....	.....	390	390	.....	
No. 1 S.....	.....	.....	420	420	.....	
No. 2 N.....	.....	.....	320	320	.....	
No. 2 S.....	.....	.....	210	210	.....	

## CAPE BRETON NORTHERN DISTRICT.

*Statement showing Production from Narrow Work, etc., for year ended Sept. 30th, 1915.*

COLLIERY	Narrow- Work Tons	Machine Rooms Tons	Hand Rooms Tons	Pillars Tons	Longwall Tons	Unclasi- fied Tons	Total Output Tons
Princess .....	90,160	.....	35,009	22,960	.....	.....	148,129
Lloyd's .....	9,400	28,752	.....	.....	.....	.....	38,152
Florence .....	26,318	146,356	.....	.....	.....	.....	172,674
Scotia .....	6,396	95,396	.....	23,323	.....	.....	125,115
Queen .....	.....	.....	.....	92,311	.....	.....	92,311
Colonial McKay .....	.....	.....	57,208	.....	.....	.....	57,208
Sydney Coal Co. ....	.....	.....	5,375	.....	.....	.....	5,375
	132,274	270,504	97,592	138,594	.....	.....	638,964

PICTOU DISTRICT.

ALBION COLLIERY.

*Narrow Work Driven, feet—Sept. 30, 1914, to Sept. 30, 1915.*

	Deeps	Total Length	Levels	Total Length	Depth of Covers	Remarks
MCGREGOR SLOPE						
No. 6 West Level.....	.....	.....	1620	2150	1031	
No. 6 East Level.....	.....	.....	300	300	1031	
ALBION						
No. 6 East Level.....	.....	.....	1200	1450	1067	
No. 7 West Level.....	.....	.....	230	5400	1023	
Drift to No. 6 Level 3rd Seam.....	.....	.....	1100	1100	1056	
No. 7 Level West.....	.....	.....	400	400	1288	
No. 6 Level West 3rd Seam.....	.....	.....	325	325	1032	

## DRUMMOND COLLIERY.

*Narrow Work Driven, feet—Sept. 30, 1914, to Sept. 30, 1915.*

	Deeps	Total Length		Total Total	Depth of Depth of
No. 19 Level North.....	.....	.....	900	2630	1900
No. 18½ Level North.....	.....	.....	575	1250	1830
No. 1 Slope.....	480	9300	.....	.....	2100
No. 2 Slope.....	150	9200	.....	.....	2100

## SCOTT PIT.

*Narrow Work Driven, feet—Sept. 30, 1914, to Sept. 30, 1915.*

	Deeps	Total Length	Levels	Total Length	Depth of Covers	Remarks
No. 6 Level South.....	.....	.....	400	1700	.....	
No. 7 Level South.....	.....	.....	200	1700	.....	
No. 7 Level North.....	.....	.....	270	270	.....	

## ALLAN COLLIERY.

*Narrow Work Driven, feet—Sept. 30, 1914, to Sept. 30, 1915.*

	Deeps	Length Total	Levels	Length Total	Covers Depth of	Remarks
Cage East Level 476.....	.....	.....	700	1740	476	
Foord East Level 476.....	.....	.....	250	1820	476	
Foord North East Level 1200.....	.....	.....	200	1200	2100	
Foord South East Level 1200.....	.....	.....	150	1200	2100	



*Statement showing Production from Narrow Work, Rooms, etc., for year ended Sept. 30th, 1915.*

COLLIERY	Narrow- Work Tons	Machine Rooms Tons	Hand Rooms Tons	Pillars Tons	Longwall Tons	Unclasi- fied Tons	Total Output Tons
No. 4 Mine..... } .....	47,288	.....	.....	5,674	132,406	3,783	189,151
Drummond..... }							
Scott Pit ..... }							

Nine months only.

*Statement showing Production from Narrow Work, Rooms, etc., for year ended Sept. 30th, 1915.*

COLLIERY	Narrow- Work Tons	Machine Rooms Tons	Hand Rooms Tons	Pillars Tons	Longwall Tons	Unclasi- fied Tons	Total Output Tons
Albion .....	68,392.4	.....	92,110.17	52,523.7	.....	1,723.8	214,749.6
McGregor .....	30,367.4	.....	17,947.4	38,885.17	.....	879.4	88,079.9
Allan .....	7,776	17,888	14,668	1,465	.....	676.	42,473.
							345,302.5

## SPRINGHILL NO. 2, CUMBERLAND.

*Narrow Work Driven, feet—Sept. 30, 1914, to Sept. 30, 1915.*

	Deeps	Total Length	Levels	Total Length	Depth of Covers	Remarks
No. 1 SEAM						
3300 Level East.....	.....	.....	667	1427	.....	From Tunnel
No. 2 SEAM						
4700 Level East.....	.....	.....	1840	5650	.....	From Slope
4700 Level West.....	.....	.....	765	3940	.....	
5400 Level East.....	.....	.....	995	2015	.....	
5400 Level West.....	.....	.....	785	1895	.....	

## SPRINGHILL COLLIERY NO. 3, EAST SINKING.

*Narrow Work Driven, feet—Sept. 30, 1914, to Sept. 30, 1915.*

	Deeps	Total Length	Levels	Total Length	Depth of Covers	Remarks
Sinking .....	570	1320	.....	.....	.....	From Sinking
1st Level East.....	.....	.....	745	855	.....	"
4400 Level West.....	.....	.....	1105	1180	.....	"
2nd Level East.....	.....	.....	585	585	.....	"
5000 Level East.....	.....	.....	385	385	.....	"
5000 Level West.....	.....	.....	470	470	.....	"
Tunnel .....	.....	.....	90	90	.....	"

# SPRINGHILL COLLIERY NO. 3, WEST SINKING.

*Narrow Work Driven, feet—Sept. 30, 1914, to Sept. 30, 1915.*

	Deeps	Total Length	Levels	Total Length	Depth of Covers	Remarks
Sinking .....	200	2650	.....	.....	.....	From Sinking
4400 Level East.....	.....	.....	790	2390	.....	"
4400 Level West.....	.....	.....	365	2550	.....	"
5000 Level East.....	.....	.....	780	1560	.....	"
5000 Level West.....	.....	.....	675	1615	.....	"

## JOGGINS COLLIERY.

Narrow Work Driven, feet—Sept. 30, 1914, to Sept. 30, 1915.

	Deeps	Total Length	Levels	Total Length	Depth of Covers	Remarks
Fan-Slope Sinking .....	200	3730	.....	.....	1000	
Sinking, Slant 33 W .....	300	800	.....	.....	1000	
4000 Level East .....	.....	.....	600	700	1000	
4000 Level West .....	.....	.....	170	170	1000	
3300 Level East .....	.....	.....	1000	2722	890	
3300 Level West .....	.....	.....	900	2141	800	



## MINUDIE COLLIERY.

Narrow Work Driven, feet—Sept. 30, 1914, to Sept. 30, 1915.

	Deep	Total Length	Levels	Total Length	Depth of Covers	Remarks
Minudie Slope .....	27	3066	.....	.....	1030	Finished
2200 Level, W.....	.....	.....	32	1540	740	"
2500 Level, W.....	.....	.....	182	1727	830	"
2800 Level, W.....	.....	.....	101	1061	940	"
2800 Level, E.....	.....	.....	155	706	940	
3100 Level, E.....	.....	.....	229	229	1030	
3100 Level, W.....	.....	.....	303	303	1030	

## VICTORIA COLLIERY, MINUDIE.

Narrow Work Driven, feet—Sept. 30, 1914, to Sept. 30, 1915.

	Deeps	Total Length	Levels	Total Length	Depth of Covers	Remarks
Victoria Slope .....	300	882	.....	.....	300	Finished
No. 1 Seam 500 Level, E.....	.....	.....	85	650	180	"
No. 1 Seam 500 Level, W.....	.....	.....	124	800	180	"
No. 2 Seam 500 Level, E.....	.....	.....	194	1060	180	"
No. 2 Seam 500 Level, W.....	.....	.....	54	918	180	"
No. 2 Seam 800 Level, W.....	.....	.....	204	460	290	"
No. 2 Seam 800 Level, E.....	.....	.....	202	358	290	"
No. 1 Seam 800 Level, E.....	.....	.....	327	545	290	"
No. 1 Seam 800 Level, W.....	.....	.....	236	585	290	"

## JOGGINS MINES.

*Statement showing Production from Narrow Work, Rooms, etc., for year ended Sept. 30th, 1915.*

COLLIERY	Narrow- Work 'Tons	Machine Rooms 'Tons	Hand Rooms 'Tons	Pillars 'Tons	Longwall 'Tons	Unclassi- fied 'Tons	Total Output 'Tons
Joggins No. 7.....	1,000	.....	15,000	10,000	127,150	.....	153,150
Black Diamond .....	750	.....	.....	.....	6,583	.....	7,333
Total 'Tons.....	1,750	.....	15,000	10,000	133,733	.....	160,483

## SPRINGHILL, MINES.

*Statement showing Production from Narrow Work, Rooms, etc., for year ended Sept. 30th, 1915.*

COLLIERY	Narrow- Work Tons	Machine Rooms Tons	Hand Rooms Tons	Pillars Tons	Longwall Tons	Unclasi- fied Tons	Total Output Tons
No. 2 Mine.....	165,886	.....	.....	106,221	.....	.....	272,107
No. 3 Mine.....	107,764	.....	.....	26,941	.....	.....	134,705
							406,812

## CUMBERLAND DISTRICT.

## MINUDIE COAL CO.

*Statement showing Production from Narrow Work, etc., for year ended Sept. 30th, 1915.*

COLLIERY	Narrow- Work Tons	Machine Rooms Tons	Hand Rooms Tons	Pillars Tons	Longwall Tons	Unclassi- fied Tons	Total Output Tons
Minudie No. 1.....	458	.....	.....	.....	35,200	.....	36,200
No. 2 Victoria .....	271	.....	.....	.....	45,800	.....	45,800
							82,000



## INVERNESS COLLIERY.

Statement showing Production from Narrow Work, etc., for year ended Sept. 30th, 1915.

COLLIERY	Narrow- Work Tons	Machine Rooms Tons	Hand Rooms Tons	Pillars Tons	Longwall Tons	Unclasi- fied Tons	Total Output Tons
Inverness .....	41,987	.....	55,982	135,290	.....	.....	233,259

## INVERNESS COLLIERY.

Narrow Work Driven, feet—Sept. 30, 1914, to Sept. 30, 1915.

	Deeps	Total Length	High Levels	Low Levels	Total Length	Depth of Covers	Remarks
No. 8 West.....	.....	.....	.....	240	4910	1180	No. 8 West, low level, is the haulage level.
“ .....	.....	.....	240	.....	4910	1150	
No. 8 East.....	.....	.....	450	.....	6030	1330	
“ .....	.....	.....	.....	650	6230	1350	Haulage level.
No. 9 West.....	.....	.....	1000	.....	3500	1442	“
“ .....	.....	.....	.....	1000	3500	1476	“
No. 9 East.....	.....	.....	1300	.....	3900	1610	“
“ .....	.....	.....	.....	1300	3900	1635	
Angle Deeps .....	310	6010	.....	.....	.....	1693	The cover given is solid strata.

**TIMBER USED UNDERGROUND IN THE COLLIERIES OF NOVA SCOTIA, YEAR ENDED SEPT. 30, 1915**  
**DOMINION COAL COMPANY, LIMITED. CAPE BRETON.**

COLLIERY	PROPS		BOOMS		SLEEPERS	
	Number	Lineal Feet	Number	Lineal Feet	Number	Lineal Feet
No. 1.....	73,038	656,929	1,822	27,644	22,531	90,172
No. 2.....	220,898	1,869,661	1,554	21,732	25,252	131,422
No. 3.....	11,570	104,130	184	2,944	620	3,100
No. 4.....	58,598	450,636	4,974	69,460	16,084	65,880
No. 5.....	31,801	286,175	170	2,371	3,942	16,495
No. 6.....	42,128	301,672	998	14,992	17,228	86,491
No. 7.....	59,230	427,939	3,064	45,105	12,165	48,660
No. 9.....	102,940	721,440	3,212	41,540	23,652	121,067
No. 10.....	50,464	260,218	491	6,886	9,793	40,044
No. 11.....	25,569	165,260	73	1,168	5,732	22,928
No. 12.....	84,259	589,813	6,821	94,477	31,109	124,484
No. 14.....	62,243	536,948	9,470	116,278	16,871	69,318
No. 15.....	76,999	473,088	4,698	61,621	22,610	90,440
No. 16.....	86,687	550,119	4,305	55,354	18,958	75,832
No. 21.....	22,535	160,017	.....	.....	5,118	20,472
No. 22.....	38,488	246,993	60	960	7,824	31,296
Total.....	1047,447	7801,038	41,897	562,532	239,489	1038,101

## DOMINION COAL COMPANY, CUMBERLAND.

COLLIERY	PROPS		BOOMS		SLEEPERS	
	Number	Lineal Feet	Number	Lineal Feet	Number	Lineal Feet
Springhill No. 2.....	156,952	1114,666	52,725	525,103	.....	29,000
Springhill No. 3.....	81,700	581,473	18,900	199,052	26,000	35,000
Totals.....	238,652	1696,139	71,625	724,155	26,000	64,000

## NOVA SCOTIA STEEL &amp; COAL COMPANY, LIMITED.

COLLIERY	PROPS		BOOMS		SLEEPERS	
	Number	Lineal Feet	Number	Lineal Feet	Number	Lineal Feet
Princess .....	24,589	147,512	436	5,082	2,265	9,192
Lloyd's .....	164,380	986,281	18,961	152,178	3,826	15,304
Florence .....	110,101	602,786	33,574	69,248	31,519	126,076
Scotia .....	11,857	71,147	3,124	22,924	629	24,496
Queen .....	264	1,260	2,544	32,038	3,240	12,960
Totals.....	311,191	1808,986	58,639	281,470	41,479	188,028



## INTERCOLONIAL COAL MINING COMPANY.

COLLIERY	PROPS		BOOMS		SLEEPERS	
	Number	Lineal Feet	Number	Lineal Feet	Number	Lineal Feet
Drummond Main and Second.....	.....	1994,558	.....	565,755	.....	.....
No. 5 or Old Acadia...	3,182	25,456	3,116	37,399	.....	.....
Total.....	3,182	2020,014	3,116	603,154	.....	.....

## COLONIAL COAL CO.

COLLIERY	PROPS		BOOMS		SLEEPERS	
	Number	Lineal Feet	Number	Lineal Feet	Number	Lineal Feet
Colonial .....	21,499	127,729	1,496	15,854	2,580	10,320

## MARITIME COAL RAILWAY &amp; POWER COMPANY.

COLLIERY	PROPS		BOOMS		SLEEPERS	
	Number	Lineal Feet	Number	Lineal Feet	Number	Lineal Feet
Joggins .....	9,236	55,486	4,370	46,765	8,310	37,520

## MINUDIE COAL COMPANY.

COLLIERY	PROPS		BOOMS		SLEEPERS	
	Number	Lineal Feet	Number	Lineal Feet	Number	Lineal Feet
Minudie .....	61,896	238,862	1,040	9,056	1,185	4,824
No. 2 Victoria.....	98,400	366,451½	762	7,130	391	1,802
Totals.....	160,296	605,313½	1,802	16,186	1,576	6,626

## ACADIA COAL CO.

COLLIERY	PROPS		BOOMS		SLEEPERS	
	Number	Lineal Feet	Number	Lineal Feet	Number	Lineal Feet
Allan .....	18,031	157,298	3,688	44,554	.....	19,304
Albion and McGregor..	60,433	504,825	49,686	523,788	8,845	57,738
Totals.....	78,464	662,123	53,374	568,342	8,845	77,042



INVERNESS COAL & RAILWAY COMPANY.

COLLIERY	PROPS		BOOMS		SLEEPERS	
	Number	Lineal Feet	Number	Lineal Feet	Number	Lineal Feet
Inverness .....	145,017	1015,119	34,826	388,240	11,525	56,788

## PRODUCTION AND SALES OF COAL, BY COMPANIES.

Year ended September 30th, 1915.

NAME OF COMPANY	Output Tons	Sales Tons	Colliery Consump- tion Tons	Supplied Workmen Tons	On Bank at close of year Tons	Difference on Bank compared with 1914	
						Increase	Decrease
Dominion Coal Co., Ltd.....	4,321,547 <sup>1</sup> / <sub>4</sub>	3,968,818 <sup>1</sup> / <sub>4</sub>	246,902 <sup>1</sup> / <sub>2</sub>	52,326	68,454	.....	19,311
Nova Scotia Steel & Coal Co., Ltd.....	576,381	555,907 <sup>1</sup> / <sub>2</sub>	32,944 <sup>1</sup> / <sub>4</sub>	20,619	4,242	.....	35,396
**Cumberland Railway & Coal Co.....	406,812	345,236	53,357	10,813	2,757	.....	6,475
Acadia Coal Co., Ltd.....	324,479	285,297	28,576	9,307	1,742	.....	1,059
Maritime Ry., Coal & Power Co.....	160,483	138,438	5,210	2,945	11,392	.....	.....
Inverness Railway & Coal Co.....	233,259 <sup>1</sup> / <sub>4</sub>	167,989 <sup>1</sup> / <sub>4</sub>	20,404	6,108 <sup>1</sup> / <sub>4</sub>	2,364	10,242	.....
.....	.....	.....	23,890	7,208	7,038	.....	358
Intercolonial Coal Mining Co.....	189,818	156,686	*3,184	.....	.....	.....	1,820
Sydney Coal Co.....	5,375	4,990	118	186	101	81	.....
Colonial Coal Co.....	57,208	52,172	4,508	528	.....	.....	.....
Minudie Coal Co.....	82,056	63,314	7,938	1,935	.....	.....	.....
Cape Breton Coal, Iron & Ry Co.....	18,107	15,159	2,377	298	6,154	273	.....
Lawson Mine .....	1,470	1,480	45	5	.....	.....	60
Atlantic Grindstone Coal & Ry. Co.....	447	399	22	26	.....	.....	.....
Provincial Mining Co.....	2,021	2,021	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....
.....	6,379,463 <sup>1</sup> / <sub>2</sub>	5,757,907	429,475 <sup>3</sup> / <sub>4</sub>	112,304 <sup>1</sup> / <sub>4</sub>	104,244	.....	.....

\* Acadia Slope Consumption.

\*\* Operated by Dominion Coal Co., Limited.

## NUMBER AND CLASS OF WORKMEN EMPLOYED IN THE COAL MINES OF NOVA SCOTIA

Year ended September 30th, 1915.

COMPANY	Average Days Work a Month	AVERAGE DAILY FORCE					Horses
		Surface	Underground Labor	Cutting Coal	Transportation, Commercial, Up-keep Repairs, Construction	Total Workmen	Total Days
Dominion Coal Co.....	19	871	4504	1189	3249	9813	1,695,987
N. S. Steel & Coal Co....	18	325	1483	454	148	2410	568,120
Cumberland Ry. & Coal Co	21	202	421	386	60	1069	284,713
Acadia Coal Co.....	25 1/3	185	304	215	66	770	239,300
Intercolonial Coal Co....	18 2/3	211	235	171	33	650	160,965
Maritime Cl Ry & Pwr. Co	18 1/3	73	222	119	35	449	109,843
Inverness Ry. & Coal Co..	18 1/3	92	230	212	127	661	158,651
Sydney Coal Co.....	18	3	2	3	3	11	2,387
Minudie Coal Co.....	15 1/3	75	65	136	14	290	66,215
Lawson .....	12	1	2	1	.....	4	350
Atlantic Grindstone & Coal Co.....	12	1	2	1	.....	4	373
Provincial Co.....	14	2	3	2	.....	7	600
Colonial Coal Co.....	21 2/3	24	32	67	5	128	24,480
C. B. Coal, Iron & Ry. Co.	10	5	25	25	5	60	1,550
.....	.....	2070	7530	2981	3745	16326	3,310,934
							895

## COAL SALES BY COUNTIES.

*Year ended September 30th, 1915.*

	Cape Breton	Pictou	Cumberland	Inverness	Totals
Nova Scotia, by land.....	1,216,649 <sup>3</sup> / <sub>4</sub>	340,151	106,451	101,876	1,765,127 <sup>3</sup> / <sub>4</sub>
Nova Scotia, by sea.....	291,704 <sup>1</sup> / <sub>4</sub>	13,844	22,496	22,259 <sup>1</sup> / <sub>4</sub>	350,303 <sup>1</sup> / <sub>2</sub>
New Brunswick .....	215,023 <sup>1</sup> / <sub>4</sub>	30,929	337,835	19,510 <sup>1</sup> / <sub>4</sub>	603,297 <sup>1</sup> / <sub>2</sub>
Newfoundland .....	208,692	.....	.....	.....	208,692
Prince Edward Island.....	33,551 <sup>1</sup> / <sub>2</sub>	36,500	.....	13,137	83,188 <sup>1</sup> / <sub>2</sub>
Quebec .....	1,570,547 <sup>1</sup> / <sub>4</sub>	20,559	56,984	679 <sup>1</sup> / <sub>4</sub>	1,828,769 <sup>1</sup> / <sub>2</sub>
St. Pierre .....	10,472 <sup>1</sup> / <sub>2</sub>	.....	.....	.....	10,472 <sup>1</sup> / <sub>2</sub>
United States .....	510,880 <sup>1</sup> / <sub>4</sub>	.....	21,804	.....	532,684 <sup>1</sup> / <sub>4</sub>
Other Countries .....	7,811 <sup>1</sup> / <sub>2</sub>	.....	.....	.....	7,811 <sup>1</sup> / <sub>2</sub>
Bunker .....	328,694	.....	3,419	10,095 <sup>1</sup> / <sub>4</sub>	342,208 <sup>1</sup> / <sub>4</sub>
Time Chartered Boats.....	14,604	.....	1,899	432 <sup>1</sup> / <sub>4</sub>	16,935 <sup>1</sup> / <sub>4</sub>
Lost at Sea.....	8,416 <sup>1</sup> / <sub>2</sub>	.....	.....	.....	8,416 <sup>1</sup> / <sub>2</sub>
	4,597,046 <sup>3</sup> / <sub>4</sub>	441,983	550,888	167,989 <sup>1</sup> / <sub>4</sub>	5,757,907

## COAL.

## NOVA SCOTIA EXPORTED TO THE UNITED STATES.

Years	Tons	Duty	Years	Tons	Duty
1850	118,173	24 ad.	1879	51,641	.75
1851	116,274	"	1880	123,423	"
1852	87,542	"	1881	113,728	"
1853	120,764	"	1882	99,302	"
1854	139,125	Free	1883	102,755	"
1855	103,222	"	1884	64,515	"
1856	126,152	"	1885	34,483	"
1857	123,335	"	1886	66,003	"
1858	186,743	"	1887	73,892	"
1859	122,720	"	1888	30,198	"
1860	149,289	"	1889	29,987	"
1861	204,457	"	1890	50,854	"
1862	192,612	"	1891	25,431	"
1863	282,775	"	1892	13,883	"
1864	347,594	"	1893	16,099	"
1865	465,194	"	a1894	79,837	.40
1866	404,252	"	b1895	73,097	"
1867	338,492	\$1.25	c1896	174,919	"
1868	228,132	"	d1897	106,279	.67
1869	257,485	"	1898	98,027	"
1870	168,180	"	1899	153,188	"
1871	165,431	"	1900	624,273	"
1872	154,092	.75	1901	591,086	"
1873	254,760	"	1902	751,382	"
1874	138,336	"	1903	968,832	"
1875	89,746	"	1904	713,170	"
1876	71,634	"	1905	652,538	"
1877	118,216	"	1906	769,775	"
1878	88,495	"	1907	616,312	"
			1908	499,634	"
			1909	324,786½	"
			1910	290,668	"
			1911	332,301	"
			1912	412,531	"
			1913	468,000	"
			1914	300,661¼	Free
			1915	532,684¼	"

Note—The quantities given for the years 1852 to 1872 are on the authority of the Board of Trade, Philadelphia, and are probably underestimated.

aNine months only.

b Note—After August 1st, 1894, duty on Round Coal, 40 cents, on Culm and Slack, 15 cents.

c Fiscal year begins Oct. 1st, and ends Sept. 30th, (Chap. 4, Acts 1893).

d On July 24th, 1897, the duty was made 67 cents.

On October 3rd, 1913, duty was removed.



## (NOVA SCOTIA COAL SALES 1785 TO 1915 INCLUSIVE)

Year	Sales	Total	Year	Sales	Total
1785	1,668		1851	153,499	
1786	2,000		1852	189,076	
1787			1853	217,426	
1788	10,681		1854	234,312	
1789			1855	238,215	
1790			1856	253,492	
		14,349	1857	294,198	
1791	2,670		1858	226,725	
1792	2,143		1859	270,293	
1793	1,926		1860	322,593	2,399,829
1794	4,405				
1795	5,320		1861	326,429	
1796	5,249		1862	395,637	
1797	6,039		1863	429,351	
1798	5,948		1864	576,935	
1799	8,947		1865	635,586	
1800	8,400		1866	558,520	
		51,048	1867	471,185	
1801	5,775		1868	453,624	
1802	7,769		1869	511,795	
1803	6,601		1870	568,277	4,927,339
1804	5,976				
1805	10,130		1871	596,418	
1806	4,938		1872	785,914	
1807	5,119		1873	881,106	
1808	6,616		1874	749,127	
1809	8,919		1875	706,795	
1810	8,609		1876	634,207	
		70,452	1877	687,065	
1811	8,516		1878	693,511	
1812	9,570		1879	688,624	
1813	9,744		1880	954,659	7,377,426
1814	9,866				
1815	9,336		1881	1,035,014	
1816	8,619		1882	1,250,179	
1817	9,284		1883	1,297,523	
1818	7,920		1884	1,261,650	
1819	8,692		1885	1,254,510	
1820	9,980		1886	1,373,666	
		91,527	1887	1,519,684	
1821	11,388		1888	1,576,692	
1822	7,512		1889	1,555,107	
1823			1890	1,786,111	13,910,136
1824	27,000				
1825			1891	1,849,945	
1826	12,600		1892	1,752,934	
1827	12,149		1893	1,485,924	
1828	20,967		1894	2,019,742	
1829	21,935		1895	1,831,357	
1830	27,269		1896	2,047,133	
		140,820	1897	2,013,421	
1831	37,170		1898	2,135,397	
1832	50,396		1899	2,419,137	
1833	64,743		1900	2,997,546	20,552,536
1834	50,813				
1835	56,434		1901	3,119,335	
1836	107,593		1902	3,898,626	
1837	118,942		1903	4,621,074	
1838	106,730		1904	4,544,609	
1839	145,962		1905	5,194,590	
1840	101,198		1906	4,475,284	
		839,981	1907	5,194,590	
1841	148,298		1908	5,046,690	
1842	129,708		1909	5,485,583	
1843	105,161		1910	4,615,713	45,898,410
1844	108,482			4,896,896	
1845	150,674				
1846	147,506		1911	5,556,464	
1847	201,605		1912	6,177,615	
1848	187,643		1913	6,478,709	
1849	174,592		1914	6,164,600	
1850	180,084		1915	5,757,907	
		1,533,798			

## DOMINION COAL COMPANY, LIMITED.

*Statement showing the Quantity of Air in Circulation and Water Gauge at each Colliery as existing at September 30th, 1915.*

COLLIERY	Cubic Feet of Air per minute	Water Gauge inches
Dominion No. 1.....	167,000	2.2
" " 2.....	230,800	4.6
" " 3.....	86,000	2.6
" " 4.....	100,000	2.7
" " 5.....	137,000	1.5
" " 6.....	83,000	1.9
" " 7.....	70,000	1.9
" " 9.....	200,000	3.2
" " 10.....	46,500	.5
" " 11.....	25,000	.7
" " 12.....	125,000	1.5
" " 14.....	136,000	1.7
" " 15.....	100,000	1.5
" " 16.....	100,000	1.5
" " 21.....	50,000	.3
" " 22.....	50,000	.7

## DOMINION COAL COMPANY, LIMITED.

*Statement showing Average Number of Gallons of Water Pumped  
for each Colliery for the year ended September 30th, 1915.*

Colliery.		Gallons per month.
Dominion No.	1.....	15,500,000
" "	2.....	2,500,000
" "	3.....	.....
" "	4.....	37,000,000
" "	5.....	16,000,000
" "	6.....	7,000,000
" "	7.....	12,000,000
" "	8.....	35,000,000
" "	9.....	34,000,000
" "	10.....	15,000,000
" "	11.....	2,000,000
" "	12.....	10,000,000
" "	14.....	3,000,000
" "	15.....	3,000,000
" "	16.....	4,000,000
" "	21.....	7,000,000
" "	22.....	3,000,000
		<hr/>
		206,000,000

Total for year.....2,472,000,000

Capacity of Pumping Plant about 5,000,000,000 gals. a year.

## CAPE BRETON NORTHERN DISTRICT.

*Statement showing the Quantity of Air in Circulation and Water Gauge at each Colliery as existing at September 30th, 1915.*

COLLIERY	Cubic Feet of Air per minute	Water Gauge (Ins.)
Princess .....	65,000	1.1
Lloyd's .....	25,000	1.9
Florence .....	51,600	2.5
Queen .....	100,000	2.5
Scotia .....	66,235	4.5
Colonial .....	17,000	1.2

## CAPE BRETON NORTHERN DISTRICT.

*Statement showing Average Number of Gallons of Water Pumped  
for each Colliery for the year ended 30th September, 1915.*

Colliery	Gallons per month
Princess .....	1,800,000
Lloyd's .....	7,200,000
Florence .....	2,400,000
Scotia .....	1,500,000
Colonial .....	7,200,000
Total for year.....	241,200,000

Capacity pumping plants about 980,000,000 gallons per year.



## PICTOU DISTRICT.

*Statement showing the Quantity of Air in Circulation and Water Gauge at each Colliery as existing at September 30th, 1915.*

COLLIERY	Cubic Feet of Air per minute	Water Guage (Ins)
Albion .....	80,000	6.75
McGregor .....	48,000	2.4
Allan Shaft .....	40,000	3.1
Drummond .....	100,000	5.5
Scott Pit .....	35,000	0.6
No. 4 Mine.....	30,000	5.5
Acadia .....	12,000	0.6

*Statement showing Average Number of Gallons of Water Pumped for each Colliery for the year ended 30th September, 1915.*

Colliery	Gallons per month
Allan Mine .....	3,321,665
McGregor and Albion.....	4,385,835
Drummond, Scott, and No. 4 Mine.....	2,750,000
Acadia .....	2,500,000
Total for year.....	12,957,500 155,490,000

Total capacity of pumps about 300,000,000 gallons a year.

## CUMBERLAND DISTRICT.

*Statement showing the Quantity of Air in Circulation and Water Gauge at each Colliery as existing at September 30th, 1915.*

COLLIERY	Cubic Feet of air per minute	Water Gauge inches
Springhill No. 2.....	115,000	6.3
	Measured at the	3300 ft. lift
Springhill No. 3.....	95,000	7.6
	Measured at the	3800 ft. lift
Minudie Mine .....	30,000	1
Victoria Mine .....	16,000	No water gauge
Joggins Mine .....	30,000	2.1

*Statement showing Average Number of Gallons of Water Pumped for each Colliery for the year ended 30th September, 1915.*

Colliery	Gallons per month
Springhill No. 2 Mine.....	7,130,268
Springhill No. 3 Mine.....	9,045,268
Joggins Mines .....	3,000,000
Victoria Mine .....	3,750,000
Minudie Mine .....	3,400,000
	26,325,536
Total for year.....	315,906,432
Yearly capacity of pumping plants:—	
Springhill No. 2.....	130,000,000
Springhill No. 3.....	1,828,300,000
Joggins .....	150,600,000
Minudie .....	90,000,000
Victoria .....	75,000,000

## INVERNESS DISTRICT.

*Statement showing the Quantity of Air in Circulation and Water Gauge at each Colliery as existing at September 30th, 1915.*

COLLIERY	Cubic Feet of Air per minute	Water Gauge (In.s)
Inverness .....	65,000	2.7

*Statement showing Average Number of Gallons of Water Pumped*

Colliery	Gallons per month
Inverness .....	9,990,000
The capacity of pumping plant, under present conditions, is about 792,000 per day of 12 hours, or, at 25 days a month, 237,600,000 gallons a year.	
Total for year .....	119,880,000

## ALLAN COLLIERY.

*Average Barometer and Thermometer Readings.*

Month	Barometer	Thermometer
October, 1914.....	29.67 inches	56 degrees
November " .....	29.34 "	53 "
December " .....	29.34 "	52 "
January, 1915.....	28.96 "	Mine sealed up
February " .....	29.40 "	"
March " .....	29.24 "	"
April " .....	29.02 "	55 degrees
May " .....	29.46 "	56 "
June " .....	29.37 "	58 "
July " .....	29.42 "	58 "
August " .....	29.53 "	59 "
September " .....	29.30 "	58 "

## ALBION COLLIERY.

*Average Barometer and Thermometer Readings.*

Month	Barometer	Thermometer
October, 1914.....	29.44 inches	60 degrees
November, " .....	29.02 "	57 "
December " .....	29.34 "	51 "
January 1915 .....	29.70 "	49 "
February " .....	29.68 "	48 "
March " .....	29.04 "	46 "
April " .....	29.36 "	49 "
May " .....	29.42 "	56 "
June " .....	29.62 "	58 "
July " .....	29.42 "	62 "
August " .....	29.38 "	65 "
September " .....	29.20 "	64 "

## DRUMMOND COLLIERY.

*Average Barometer and Thermometer Readings.*

Month		Barometer	Thermometer	
October,	1914.....	29.40 inches	72 degrees	
November	" .....	29.03 "	70	"
December	" .....	29.50 "	67	"
January	1915.....	29.42 "	66	"
February	" .....	29.72 "	66	"
March	" .....	29.24 "	65	"
April	" .....	29.10 "	67	"
May	" .....	29.60 "	68	"
June	" .....	29.56 "	70	"
July	" .....	29.16 "	74	"
August	" .....	29.43 "	74	"
September	" .....	29.26 "	73	"



**GOLD**—*General Annual Statement*

YEAR	Material Crushed Tons	Total Gold Extracted		
		Oz.	Dwt.	Gr.
1862 .....	6473	7275	0	0
1863 .....	17002	14001	14	17
1864 .....	21434	20032	18	13
1865 .....	24423	25454	4	8
1866 .....	32162	25204	13	2
1867 .....	31386	27314	11	11
1868 .....	32262	20541	6	10
1869 .....	35147	17868	0	19
1870 .....	30829	19866	5	5
1871 .....	30791	19227	7	4
1872 .....	17093	13094	17	6
1873 .....	17708	11852	7	19
1874 .....	13844	9140	13	9
1875 .....	14810	11208	14	19
1876 .....	15490	12038	13	18
1877 .....	17369	16882	6	1
1878 .....	17990	12577	1	22
1879 .....	15936	13801	8	10
1880 .....	14037	13234	0	4
1881 .....	15556	10756	3	2
1882 .....	12081	14107	13	20
1883 .....	25954	15446	9	23
1884 .....	25147	16059	8	17
1885 .....	28890	22202	12	20
1886 .....	29010	23362	15	13
1887 .....	22280	21211	7	18
1888 .....	36178	22407	13	10
1889 .....	39160	26155	6	13
1890 .....	42749	24359	9	9
1891 .....	35212	23391	0	0
1892 .....	33633	21080	3	18
*1893 .....	28040	14030	5	7
1894 .....	39333	14980	7	13
1895 .....	58082	22112	7	21
1896 .....	65873	25596	14	6
1897 .....	76559	26579	19	21
1898 .....	86331	31104	17	0
1899 .....	104122	27772	12	3
1900 .....	65744	30399	4	14
1901 .....	87992	30537	14	0
1902 .....	192076	28279	5	13
1903 .....	92645	25198	4	18
1904 .....	62616	14279	8	14
**1905 .....	72252	16782	11	5
**1906 .....	65278	14079	13	23
**1907 .....	66060	15007	5	8
**1908 .....	59797	11991	0	0
1909 .....	59058	12597	12	13
**1910 .....	49558	10675	13	16
**1911 .....	18319	8389	12	4
1912 .....	15868	4948	19	20
1913 .....	7324	2364	12	22
1914 .....	13156	3158	4	10
**1915 .....	25204	7215	1	20
2163323		949238	9	7

\*Nine months only.

\*\*Including Gold from Stibnite ore shipped from West Gore.

# MINES REPORT

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DISTRICT	Tons Crushed	Total yield of Gold			Av. yield of Gold			Value at \$19 the oz.
		Oz.	dwt.	grs.	Oz.	dwt.	grs.	
<i>a</i> Caribou and Moose River .....	222,831	61,678	7	14	..	5	13	\$1,171,889
Montagu .....	29,801	42,368	2	8	1	8	10	804,994
Oldham .....	59,669	68,250	12	22	1	2	21	1,296,762
Renfrew .....	61,795	48,699	7	19	..	15	18	925,289
Sherbrooke .....	326,112	156,111	4	20	..	9	14	2,966,113
Stormont .....	529,108	122,745	3	8	..	4	16	2,332,158
Tangier .....	69,397	29,437	18	7	..	8	12	559,320
<i>b</i> Uniacke .....	63,351	43,983	1	17	..	13	21	835,679
Waverley .....	155,556	60,986	8	16	..	9	0	1,329,742
<i>c</i> Brookfield .....	93,527	38,709	2	2	..	8	7	735,473
<i>d</i> Whiteburn .....	6,907	9,800	..	2	1	8	9	186,200
Lake Catcha .....	31,972	28,311	5	0	..	17	17	537,914
<i>e</i> Rawdon .....	12,189	9,606	5	10	..	15	18	182,519
Wine Harbour .....	77,396	34,992	15	11	..	9	1	664,863
<i>f</i> Fifteen Mile Stream .....	36,878	17,363	0	5	..	9	10	329,897
<i>g</i> Malaga Barrens .....	23,028	20,422	8	6	..	17	18	388,026
West Gore from Stibnite Ore) .....	4,023	6,211	0	10	1	10	21	118,009
<i>h</i> Salmon River .....	118,819	41,852	5	20	..	7	1	795,194
Other Districts .....	146,438	75,835	10	12	..	10	9	1,440,875
	2,068,798	926,364	0	17	..	8	23	\$17,600,916

*a* From 1869; *b* from 1868; *c* from 1883; *d* from 1887; *e* from 1882; *f* from 1887; *g* from 1883; *h* from 1905.

## GENERAL GOLD STATEMENT YEAR ENDED SEPTEMBER 30TH, 1915

DISTRICT	Tons Crushed	Total yield of Gold			Av. yield of Gold		
		Oz.	dwt.	grs.	Oz.	dwt.	grs.
Caribou .....	322	293	18	..	..	18	6
Caribou "Moose River" .....	276	64	18	..	..	4	17
Gold River .....	40	66	9	..	1	13	5
Kemptville .....	3	2	15	..	..	18	8
Lake "Catcha" .....	44	101	10	7	2	6	3
Malaga Barrens .....	102	116	16	..	1	2	22
Miller's Lake .....	18	8	19	..	..	9	22
Montague .....	61	135	10	..	2	4	10
Oldham .....	321	562	14	..	1	15	1
Shier's Point .....	251	26	4	12	..	2	2
Stormont .....	1594	1479	4	19	..	18	13
Sherbrooke .....	19093	2125	9	16	..	2	15
Tangier .....	1969	472	9	19	..	4	19
Waverley .....	36	5	18	..	..	3	7
Wagamatcook .....	274	41	14	19	..	3	1
Harrigan Cove .....	17	8	11	..	..	10	1
Mortared .....	....	4	15	..	..	..	..
West Gore .....	24421	5517	16	20	..	4	12
Gold contained in Concentrates .....	783	1698	5	..	2	3	9
Totals .....	25204	7216	1	20	..	5	17



## MONTHLY STATEMENT FOR EACH GOLD DISTRICT.

MONTH	Lake Catcha				Montagu			
	No. of Mines	Tons Crsh'd	Yield of Gold		No. of Mines	Tons Crsh'd	Yield of Gold	
			oz.	dwt. grs.			oz.	dwt. grs.
1914								
October .....	No cr	ushing 16	...	.. 6	1	9	17	10 0
November .....	3		44	.. 6	No cr	ushing	..	..
December .....	No cr	ushing	...	..	"	"	..	..
1915								
January .....	3	18	28	18	"	"	..	..
February .....	No cr	ushing	...	..	"	"	..	..
March .....	"	"	...	..	"	"	..	..
April .....	"	"	...	..	"	"	..	..
May .....	1	2	6	16	"	"	..	..
June .....	No cr	ushing	...	..	"	"	..	..
July .....	2	8	21	8	1	15	15	10 ..
August .....	No cr	ushing	...	..	1	25	66	..
September .....	"	"	...	..	1	12	36	10 ..
Totals .....	..	44	101	10	..	61	135	10 ..





## MONTHLY STATEMENT FOR EACH GOLD DISTRICT

MONTH	Stormont				Sherbrooke			
	No. of Mines	Tons Crsh'd	Yield of Gold		No. of Mines	Tons Crsh'd	Yield of Gold	
			oz.	dwt. grs.			oz.	dwt. grs.
1914								
October .....	2	550	168	18	2	204	19	19
November .....	1	123	28	18	1	648	86	19
December .....	No cr	ushing	...	..	3	1211	245	6 14
1915								
January .....	1	49	145	10	1	1580	231	16 14
February .....	1	60	125	8	1	1650	172	2 4
March .....	1	65	113	10	1	1900	295	15 ..
April .....	1	67	112	10	1	1900	190	14 15
May .....	1	72	119	15	1	2350	300	10 19
June .....	1	90	163	13	1	1850	161	4 ..
July .....	2	338	170	11	1	1850	142	1 9
August .....	1	85	151	6	1	2200	188	19 4
September .....	1	95	179	3	1	1750	90	18 19
Totals .....	..	1594	1479	4	..	19093	2125	9 16













